How to Sell Tomorrow's Homes Today
IT'S HAPPENING all over the country! Demand for Celotex Triple-Sealed Roofing is on the up-swing! Celotex national advertising has done a great job in building preference among homeowners for Celotex Triple-Sealed Roofing. The enthusiastic recommendation of one homeowner to another has also contributed to the rising tide of demand.

All signs indicate that people recognize and accept Celotex quality without hesitation. In dollars and cents it means less selling time and expense for you and more completely satisfied customers because your market for Celotex Triple-Sealed Roofing is pre-sold.

Advertising That Works For You!

Month after month Celotex national advertising appears in the largest group of publications used by any company in the building industry. These magazines include Saturday Evening Post, Collier's, Better Homes and Gardens, House & Garden, House Beautiful, American Home, Parents' Magazine, Country Gentleman, Successful Farming—reaching millions of building prospects, hundreds of them right in your community.

CELOTEX
REG. U. S. PAT. OFF.
ROOFING + INSULATING BOARD + ROCK WOOL
GYPSUM WALL BOARD + LATH + PLASTER
SOUND CONDITIONING PRODUCTS

THE CELOTEX CORPORATION * CHICAGO

BACK THE ATTACK WITH MORE WAR BONDS—THIRD WAR LOAN DRIVE

Published monthly by Simmons-Boardman Publishing Corporation, 105 W. Adams St., Chicago 2, Ill. Subscription price, United States, Possessions, and Canada 1 year $2.00; 2 years, $3.00; foreign countries: 1 year, $4.00; 2 years, $7.00. Single copies, 25 cents. Entered as second-class matter Oct. 11, 1930, at the Post Office at Chicago, Illinois, under the act of March 3, 1879, with additional entry as second-class matter at Mount Morris, Illinois. Address communications to 105 W. Adams St., Chicago 2, Ill.
1. In the Building Boom at the Turn of the Century, AMERICA SWITCHED TO ELECTRIC LIGHT.
THEN, American homeowners insisted on Electric Lighting in their new homes.

2. In the Building Boom of the 20's, AMERICA SWITCHED TO ELECTRIC REFRIGERATION.
THEN, American homeowners insisted on wiring and additional outlets for Electric Refrigerators and other appliances in their new homes ... and apartment house owners found Electric Refrigerators a "must."

3. In the Building Boom which will follow this war, AMERICA WILL SPEED ITS SWITCH TO ELECTRIC RANGES.

IN THE POST-WAR BUILDING BOOM

Electric Ranges

WILL BE "MUSTS"

BEFORE THE WAR — the switch to electric cooking began! 450,000 electric ranges were sold in 1940 ... 780,000 in 1941 ... with over 3 million now in use!

AFTER THE WAR — modern housewives will insist on electric cooking. So plan now to build-in wiring for electric ranges. The added cost at the time of building is negligible ... and its sales value will be tremendous.

ELECTRIC RANGE SECTION
NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION

WireYourHouse—
FOR EASIER SALES

ESTATE • GIBSON • KELVINATOR • NORGE • STEWART-WARNER • GENERAL ELECTRIC • HOTPOINT • MONARCH • QUALITY • UNIVERSAL • WESTINGHOUSE
Engineering in Lumber is progressively increasing the efficiency of wood as a structural material. Modern wood products are making important contributions to better, more economical construction.

Teco Metal Timber connectors make it possible to join wood members, utilize 85% or more of the working strength of wood.

Modern structural glues make possible Glued Laminated Wood roof trusses, arches, plywood beams, and other structural members.

Glued wood laminated framing members combine roof and sidewall in a unit, giving stronger, more wind-resistant buildings.

New processes for the treatment of wood extend its service life, broaden its uses, and increase its value in many fields.
gives stronger structures at lower cost

IN THESE soy bean storage bins wood again demonstrates its wide adaptability as a structural material that delivers the finest type of storage at the lowest cost per bushel.

The development of modern structural glues made possible the fabrication of strong laminated wood bands. These bands were engineered to meet the load requirements. As the pressure decreases at the top of the bins the number of plies in the bands are reduced. The wide, laminated wood bands in tension provide adequate resistance to bursting pressures. Their broad bearing surfaces permit the use of relatively thin (1¼ inches) Douglas Fir flooring applied vertically which forms rigid walls and saves material.

The frame work supporting the conveyor housing, which extends along the top of the bins, consists of two timber Teco connected trusses. The span is forty-seven feet between the supports.

Advances that have been made in better and more economical use of lumber through wood lamination and the Teco connector system of construction, are well demonstrated in these bins. This cylindrical storage offers more cubage per linear foot of wall than any other type of structure.

Engineering in lumber will continue to broaden the field for lumber-built structures, because it will bring to our peace-time needs better and more economical methods of building with wood.

YOUR 4-SQUARE DEALER IS HEADQUARTERS FOR ENGINEERED 4-SQUARE BUILDING SERVICES

The 4-Square Home Building Service contains fifty designs of modern homes featuring convenience, comfort, and economy. The 4-Square Farm Building Service features farm buildings and equipment engineered for low cost, long life, and greater utility. Your 4-Square Lumber Dealer will be glad to cooperate with you in the use of these services, as well as providing modern Budget Payment Plans.

WEYERHAEUSER SALES COMPANY
FIRST NATIONAL BANK BUILDING • SAINT PAUL, MINNESOTA
LEHIGH CEMENT HELPED MAKE THESE WINDOWLESS WALLS THAT "Breathe"

Modern war plants can't let weather conditions interfere with armament production. That's why you're seeing so many revolutionary developments in building ... including the mammoth plant of the Douglas Aircraft Company.

Lehigh Portland Cement, over 100,000 barrels of it, helped form the tremendous windowless walls of this construction. A continuous ventilating flue, forty feet high and nearly two miles long, provides a wall that "breathes."

It is a source of satisfaction to us that in this as well as so many other important war projects all over the country, Lehigh Normal and Lehigh Early Strength Cements have been used. Lehigh Early Strength Cement contributes extra speed in making service strength concrete when extra speed is required. It makes service strength concrete 3 to 5 times faster than normal Portland cement. For full details, write the Lehigh Service Department.

LEHIGH EARLY STRENGTH CEMENT

for service-strength concrete in a hurry

Lehigh Portland Cement Company • Allentown, Pa. • Chicago, Ill. • Spokane, Wash.
From Alcan to Iowa

To the Editor:
I am doing carpenter work on the Alaskan highway this summer. The outlook for post-war building looks bright, but for the duration it is nice to have a job like this to keep in practice. I have my American Builder sent up here and enjoy it even more than I did at home in Mt. Vernon, Iowa. Please send the following catalogs from your June issue Nos. 47, 49 and 54.—LAWRENCE HUNTER, Lytle & Green Const. Co., Alaskan Highway.

Like father, like son

To the Editor:
Thank you for the article in the July issue. At present I am building four courts—three buildings of nine units and one of thirty-one units. These are being built under FHA plan Title VI.

I am mailing you a subscription for a friend of mine, which I hope you can fill. My father has subscribed to your magazine for over thirty years, so I am quite familiar with it.—EDWIN SANDBERG.

Likes farm finance plan

To the Editor:
I have just been reading your August issue, which was loaned me by our local lumber man, C. C. Graves. Your editorial, “FHA plan for farm buildings,” impressed me very much.

In this section, Southwest Missouri, most of our farm buildings are in very serious condition. Unless a means of finance as well as proper planning, as you have mentioned, is made available, the homes and improvements in the future will not be up to the standards these people deserve.

Financing these over a long period of time would certainly be a boon and protection to farm families all over the U.S.—MAXWELL LAMPO, Vocational Agriculture Instructor.

Keep on plugging

To the Editor:
I remember a phrase from American Builder which was something to the effect that the best way to keep building private is for private builders to build.

I would like to paraphrase that and say that the best way to keep our economy to see to it that the necessary activities are initiated to keep everybody at work.

(Continued to page 76)
THE SKY'S THE LIMIT!

These photographs prove again that there's practically no limit to the versatility of Gold Bond Gypsum Building Boards! In this case, a large packing company needed additional warehouse space—so they built it on the roof with Gold Bond Gypsum Building Boards. To quote the contractor they "eliminate the use of critical material and speed up the erection of necessary buildings."

There are three of these products for emergency duration building. One is Roof Plank, for either flat or pitched roofs, which makes an ideal base for the roofing material. Another is Exterior Board. It has a weather-resistant exterior finish, completing both sheathing and siding in one operation. The third is Solid Partition Panels for sturdy interior walls quickly installed. All three handle and saw like lumber. All three are fire-resistant. And of utmost importance right now, all three are immediately available.

SEE YOUR GOLD BOND DEALER

NATIONAL GYPSUM COMPANY . . EXECUTIVE OFFICES, BUFFALO, N. Y.

21 Plants from Canada to the Gulf . . . Sales offices in principal cities
WE are really engaged in two wars—one with Germany and Italy, the other with Japan. When, then, will the "post-war period" begin?

Not until after we have finished both wars? Or after we have finished one of them, if it ends sooner than the other? Authorities differ about when the war in Europe will end, but, apparently, only about whether it will end late this year or early next year. They agree that the war with Japan will continue longer.

These expectations may be wrong; but they should be weighed by post-war planners, both business and government. Our war program has been based on the assumption that there is only one gigantic war, which will have only one termination. Construction needed for carrying on this war is almost finished, and soon there will be enough production. But if the war in Europe ends before that with Japan, the situation will be radically changed.

Probably transportation will become a more limiting factor than heretofore. Thus far we have had enough railway capacity, but have been storing great quantities of war supplies because of inadequate shipping. Cessation of the war in Europe and continuance of the war with Japan would tend to cause a large increase in traffic to the Pacific Coast, but our western railways, already the most overburdened, could not handle it. We will have more ships, but their round trips to the Orient, whether from our Atlantic or Pacific ports, are so very much longer than their round trips to Europe that they could not handle anywhere as much traffic for carrying on the war with Japan alone as for carrying on the wars in both Europe and the Orient.

This indicates that cessation of war in Europe would force a reduction of our production for war purposes. There would be a corresponding increase in materials and manpower for civilian purposes if we continued to utilize our productive capacity. And why not continue utilizing it?

There is vital need for a great increase in production for civilian purposes. There is pressing need for more and better homes, farm buildings, clothing, food, automobiles, rehabilitation of railways and almost everything else. Increased production for civilian purposes would be by far the best preventive of the dreaded inflation. For the danger of inflation is due to the fact that increase in national income, and reduced production of civilian goods, have caused an increase in demand for civilian goods so greatly exceeding the supply that, in spite of all "controls," prices increase. In the long run, the only preventive of inflation is a production of goods equaling the demand for them.

What, then, will be the results if we have two "post-war periods" instead of one? That will depend on government, business and union labor policies. If one war ends ahead of the other, these policies should be directed immediately toward enabling and encouraging private enterprise to increase building and production which will not interfere with carrying on the remaining war, and will help strengthen and prepare the civilian economy for final transition to peace. This, obviously, would include affording opportunity for private enterprise to begin remedying the increasing shortages of farm buildings and homes.

Samuel O. Dunn.
AMERICA'S GREAT AUTOMOTIVE INDUSTRY GIVES TOTAL COOPERATION FOR TOTAL VICTORY

... with "Work Together — Win Together" as the universal battle cry of the day. Chevrolet always has been proud of its membership in the automobile industry—but never before quite so proud as it is today. ... For motor car manufacturers have performed miracles on behalf of America's war effort, and they have accomplished these miracles by utilizing their skills, their experience and their resources to turn out the maximum of war material for the common cause. ... For its own part, Chevrolet is glad to report that it is serving others, just as others are serving Chevrolet—and all for the advancement of the war effort. ... Major contractor, building aircraft engines, anti-aircraft guns, high-explosive and armor-piercing shells, military trucks and other products for our armed forces—Chevrolet also is a major supplier, manufacturing parts by the million for more than 120 other important war producers. ... Total cooperation—total teamwork—is the key to total victory for all of us.

* * *

The products illustrated are only a few of the great many produced by the Automotive Industry.
PLAN ON SARAN SCREEN TODAY
FOR BETTER BUILDING TOMORROW

Saran screen is finding a place of special importance in post-war building plans. Its outstanding advantages suggest new ideas in design—ranging from the use of screen in installations where weather conditions formerly made screening impractical—to the use of special colors. For with saran it is possible to introduce a touch of color—green, for example, to soften the sun's rays and make light easier on the eyes.

Rust proof—even in the Tropics!

Hot, humid tropical conditions are known to threaten nearly all types of building materials. Yet, even under these difficult circumstances, saran window screen remains clear, strong—and rust-proof!

This new screen has many advantages. Made of fine filaments of saran, a development of The Dow Chemical Company, the screens are not affected by moisture—they will not corrode. Moreover, saran screens are non-kinking and are, therefore, easily rolled. The inherent high resistance of saran to chemical action makes the new window screens of special value in installations where corrosive conditions prevail.

THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN
New York · St. Louis · Chicago · Houston · San Francisco · Los Angeles · Seattle
Seven years ago U-S-G introduced the Perf-A-Tape® System of Joint Treatment that conceals joints and produces smooth, unbroken Sheetrock surfaces.

The Perf-A-Tape System has been outstanding—but U-S-G Laboratories are continually searching for outstanding products and methods to produce better jobs—and so it was discovered that a better job could be done with 2 cements instead of one. The Taping Cement is hard, tough, with exceptional bonding power to hold the tape. The Finishing Cement is smooth, easy-working and easy-sanding to level up and finish the joint. Each cement is specifically designed to do its particular job and do it particularly well.

This means a stronger joint, easier application of the finished coat, less sanding, and greater certainty of smooth joints.

For these reasons Perf-A-Tape 2-Cement System assures lower cost to the contractor and surer satisfaction to the customer.

WE'RE KEEPING THE
MERCHANTS OF AMERICA
"STORE FRONT CONSCIOUS"

★ Although Zouri manufacturing plants are devoted 100% right now to the war effort, Zouri is advertising to the merchants of America—in over 20 leading trade magazines—priming the pump, as it were, for the post-war construction era. This means acceptance for ZOURI Store Front Construction and future business for ZOURI—but more important to you, it means profitable work to do. ZOURI has always supported the architect and the reputable contractor—for ZOURI Store Fronts can be only as good as their design and erection. ZOURI STORE FRONTS, NILES, MICH.

What do you want in the post-war store front construction? ZOURI would be glad to hear from you!
NOW! EMERGENCY DWELLING COSTS LOWERED BY GROUP HOUSING!

PIONEERING in the production of factory-built homes to meet the nation's emergency housing needs, Palace has developed a plan of group housing which reduces housing costs to a new "low."

By means of two basic units, as many as four variations in room arrangements can now be supplied to meet the needs of individual occupants. The units are provided either without bedrooms or with as many as three bedrooms, as desired—and with or without toilet, shower and bath—and may be arranged in a group, as above illustrated, to house any number of families.

Completely factory-built, factory-assembled, and factory-equipped, the units are transported from factory to building site by motor truck, and are ready for occupancy practically upon arrival.

Additional Information Upon Request
ORDER ESSENTIAL HEATING EQUIPMENT NOW!
Boilers, Radiators, Conversion and Repair
Parts available to qualified users

U.S. RADIATOR manufacturing facilities are being heavily taxed by production of vital fighting and other military equipment. This means that boilers and radiators for essential civilian, hospital and other war requirements should be ordered now—without delay. Waiting till the fall heating season arrives may be a serious matter.

This also applies to conversion and repair parts for both steel and cast iron boilers. These units are available now, but they may be difficult to obtain by the time cold weather comes.

PACIFIC STEEL BOILERS should likewise be ordered right away. For information concerning priorities under which they are available, and can be delivered, get in touch with the Pacific Steel Boiler Division of U.S. Radiator right away.
LESS AND LESS—The way housing materials and equipment have been cut to the bone reminds me of the current story of stainless steel knives. They used to be stainless steel—but now they are stainless, steel-less, steak-less.

WILL THEY BE REMODELED?—The suggestion is going around that the present crop of war houses will be a lucrative source of post-war remodeling business. The temporary stuff will be torn down, but that still leaves a good many Title VI jobs that, trimmed to meet a new and lower by pre-war standards for housing rules, will have to be brought up to a normal post-war standard.

69% CUT—Critical metals used in the average privately financed war house have been cut 69% according to Administrator Blandford of NHA. The average pre-war dwelling used 3930 pounds. This has been cut to 2474 in today’s jobs.

Blandford says that permanent public housing units have been cut from 9712 pounds to 2717. These figures are a triumph as far as cutting of critical materials are concerned—but they have brought about some of the cheapest, shoddiest housing this country has ever produced.

FLAT ROOFS OUT—Privately built war housing has been bad enough, but the public stuff looks so awful that it may eventually result in a national scandal. There has been so much criticism of FHA’s modernistic flat roof designs that the flat roofs are now being abandoned in favor of pitched roofs for all future war housing. I understand also that private builders will be allowed to build more single-family dwellings from now on, rather than the row type that for a time was vigorously pushed.

POST-WAR DISTRIBUTION—Many wild things are being said these days about how the post-war distribution of building products and equipment is going to be radically altered. There is undoubtedly room for a streamlining and simplification of some parts of the distribution system, but people who know what goes into distribution costs don’t expect much change.

Service is one important cost that is included in distribution, and the servicing of many types of home equipment is an extremely important item that must be done locally by experienced and high-priced employees. Warehouse is another cost that should not be overlooked in connection with bulky and heavy building products. Installation is another important item, and then don’t ever forget the cost of delivery—and when you think of delivery you must include the times when the wrong part or color makes it necessary to take out and re-deliver it three or four times.

SHINGLE SHORTAGE—The current shortage of red cedar shingles is a tough headache for shingle manufacturers, and a cause for more sympathy than blame. A principal reason for the shortage is the loss of manpower to other war jobs and to the armed forces. Added to that is last winter’s bad logging conditions. Due to the freeze on other types of lumber, cedar has been widely used for other purposes than shingles, and for pulp making.

CED AT WORK—The Committee for Economic Development, an association of business men headed by Paul Hoffman of Steelbaker Corporation, is doing a notable job on post-war planning. The purpose of the committee is to organize business men throughout the cities, towns and villages of the country, to maintain employment after the war by private enterprise. More than 1,000 communities have already been organized, and in each case the business men of the town are canvassed as to what they can do to maintain post-war employment. Based on this foundation of local action, the National Committee has employed outstanding economists to work out a national program for post-war.

When the CED organizes a town, each business man is told to ask himself: “If peace were to come tomorrow what business could you do?” It might be well for private builders to ask themselves. “If peace were to come tomorrow what building could you do?” The answer would lead to affiliation with CED and to taking steps to plan a practical post-war building program.

DEPARTMENT STORE SERVICE—Department stores would expect to keep overhead low, but first they would have to have a department manager, then an assistant manager, then a field force. Next an architectural department, then a financial department, a brokerage department, and a service department. Soon they would have expediter, field men, inspectors and a large crew processing applications for loans that would never go through.

By the time all these costs are figured in, department stores will not only have a headache, but a unit cost that will be far greater than the ordinary builder would dream of.

Despite all this, our expert believes a good many department stores may go into post-war home merchandising—and he says it will be amusing to watch them make all the mistakes smart builders learned about years ago.

700 WORKING HOURS—Dave Bohannon of San Francisco, former president of NAHB, has set a new record by building a three-bedroom detached house in 700 working hours. He is now completing his Richmond project of 700 houses, the first of which was erected, carefully studied by FHA experts, then taken apart and members used as templates. As the parts were pre-cut on power saws they were numbered and dropped by trailer at the site. Bohannon has always said that he could outbuild any prefabricator and produce better houses at lower cost with his methods.
America has made a promise ... to provide jobs for our Service Men when they come back home. One way will be to give them buildings to build. And here's where you can help.

Start house planning today. Put your architects and draftsmen to work now so that actual construction can be started on V-Day!

And plan, too . . . to give your home buyers the new Fenestra Package Window with these advantages:

- Safer and easier cleaning from inside, more daylight through larger glass areas, better ventilation, superior weather-tightness, screened in a jiffy...all at astonishingly low cost. And besides, low-cost wood-frame Storm Sash can be used with them.

DETROIT STEEL PRODUCTS COMPANY
Now Exclusively Engaged in War Goods Manufacture
Dept. AB-9 • 2260 East Grand Blvd. • Detroit, Mich.
Pacific Coast Plant at Oakland, California
DO THEY HAVE TO MAKE THOSE J-M CAMOUFLAGE SHINGLES SO $-C/\times? \O\$+ PERFECT?
I'VE BEEN HUNTING MY BARRACKS FOR THE LAST THREE DAYS!

This cartoon was originally drawn to show Johns-Manville employees how J-M products are being used in the war effort. We think you, too, will get a chuckle from it and perhaps better understand why shipments of J-M Asbestos Shingles have not always been as prompt as you or we would have liked. Johns-Manville, 22 E. 40th St., New York 16, N. Y.
THIS IS THE YEAR!
Whether the War ends in 1943, 1944, or 1949, NOW is the time to PRODUCE and PREPARE.

READY NOW!
To Give You Greater

SPEED, ACCURACY, SAFETY

NEW 36" BAND SAW—NEW CABINET PLANER

Aristocrats in appearance, impressive with latent power, these ultra-modern woodworking machines will set new standards of efficiency right in your shop.

With these new machines you can do more and better work—and reduce operating costs, too. No waste time or labor: they’re built with precision to give smooth, vibrationless, constant service for the lifetime of an elephant. Yet, the prices are moderate!

It is utterly impossible on a single page to give you all the details and specifications of these truly outstanding machines. Send for special folders 60A and 60B, hot from the press, that tell you everything.

We also manufacture the UNI-POINT Radial Saw and a complete line of modern design Saw Benches, Jointers, Lathes, Shapers, Mortisers, Sanders, Swing Saws. Also a full line of Saw Mill Machinery.

Write for details, and catalog 60 or contact your nearest machinery dealer.

MONARCH 24" x 8" SINGLE SURFACER CABINET PLANER
No. X41

MONARCH 36" BAND SAW
MODEL X40

Unusually heavy base, cast integral with frame, inserts against deflection and vibration.

Steel drive wheels, dynamically balanced, with demountable rim and removable rubber tires.

Belt bearing precision roller type saw guides.

All moving parts enclosed except the path of saw blade actually in work.

Automatic cut out switch on foot brake.

Straining spring balance and tension scale.

Direct mounted motor 3 or 5 H.P., with special safety features.

One-piece main frame of great sturdiness totally encloses feed transmission, giving operator complete safety. One-piece top section provides great rigidity and vibrationless operation. Infinitely variable range of feeds, with safety foot pedal quick release.

Cutterhead, feed rolls, and all revolving parts run in precision ball bearings.

Safety cutterhead of machined steel forging, accurately ground and balanced.

Lubrication by sumpless pressure system.

One-piece bed casting, with removable center bed plates.

Direct motor drive, with push button control. Belt drive when desired.

AMERICAN SAW MILL MACHINERY CO.
HACKETTSTOWN, NEW JERSEY
MEMO FOR
POST WAR PLANNING

Household operating and upkeep expenses come out of the same pocketbook as mortgage amortization payments. High-quality equipment, as supplied by General Electric, usually reduces monthly operating bills more than it increases monthly payments on the house... so actually it costs less to live better.

Remember, General Electric high-quality equipment will best serve the interests of your after-Victory clients or customers.

GENERAL ELECTRIC
HOME BUREAU - BRIDGEPORT, CONN.
American industry is awake to the danger of an industrial "Pearl Harbor" when the war ends unless it plans for peacetime needs while it produces war materials.

This does not indicate the slightest slowing-up of the war effort. It has long been the habits of leaders in free American industry to plan for tomorrow's needs while producing today's merchandise.

Youngstown Pressed Steel is on the job with the definite idea of getting its distributors and dealers back into business at the earliest possible moment with the best possible product.

An intensive study of YOUNGSTOWN KITCHENS in actual use has revealed opportunities for the addition of many features, and these will be put into the post-war production schedule as fast as the time element will permit.

YOUNGSTOWN PRESSED STEEL Division of MULLINS MANUFACTURING CORP.
WARREN, OHIO
TODAY in the far northwoods, crops of trees—those not adaptable for lumber—are being harvested for many vital purposes. Many of these trees are transformed into an insulating board that fulfills a multitude of services, in many parts of the world.

The many lives of a NORTHWOODS TREE

- Insulite is extensively used in construction of homes for defense workers. The large Insulite boards are easily and quickly applied. Covering large areas, Insulite saves precious man hours. And because it insulates, Insulite saves fuel in winter, and makes rooms cooler in summer.

- Insulite is widely used on farms. Insulite used to line dairy barns is an aid to ventilation... it helps to keep cows healthier, lowers feeding costs. Hen houses and hog houses and other farm structures all can be built better with Insulite, for Insulite provides in one material wind-proofed, weather-proofed and moisture-proofed walls.

- Fabricated into Insulite Structural Insulating Board these trees have a wider usefulness than wood itself. Logs are placed into giant machines that tear them to pieces, reducing them to the wood fibres. From these fibres—the sturdy sinews of the tree—are processed the boards called INSULITE.

- Insulite gives two services—it builds stronger, and insulates as it builds. Insulite has a bracing strength four times that of ordinary wood sheathing, horizontally applied. As in 1918, Insulite has been used in the construction of many buildings for our armed forces throughout the country.

LOOK FOR INSULITE IN THE RED PACKAGE
Are you pipe dreaming or Planning for that Building Boom?

ANY WAY you look at it, America is outgrowing its shingles—needs acres and acres of new housing.

But, you're barking up the wrong two-by-four if you expect a building boom to follow the war just because America needs one. There was a great need for new housing before the war. And what happened? No boom.

"But this time," you may say, "the building industry has an ace up its sleeve... houses that are more functional, more livable, more attractive.

We ought to get a building boom out of that."

Maybe! If you can get the market over its hurdle of doubt. For the home builders of America are in a state of indecision about their postwar homes: they hesitate to buy the old kind of homes, knowing there is something better—they are afraid to take the plunge into the new kind of housing until they know more about it.

What to do? Experts suggest: aim your selling at the kind of Americans who set the pace for the rest of the country—get the story of the new age in housing across to the million most influential families in America—get it before wives and husbands at the same time; together they decide when and what to build.

By far the most economical and effective way to reach these top-million men and top-million women* is through TIME, The Weekly News magazine, for they vote TIME their favorite of all the magazines they read—by a margin of 7 to 1 over their next favorite.

*These people include executives and editors, congressmen and college presidents, government officials, mayors, radio commentators, and 21 other groups of leaders—all of whom recently voted "TIME is America's most important magazine."
Heck, even a woodpecker knows

It's easier to bore a round hole than to mortise a square one

Let Us Send You Complete Details On —

- Dexter Tubular Locks and Latches and
- Cabinet Hardware Line
- Both available today in conformity with Government regulations.
- Write now — no obligation.

DEXTER TUBULAR LOCKS and LATCHES

Manufactured by NATIONAL BRASS COMPANY
GRAND RAPIDS, MICHIGAN

That's why DEXTER-TUBULARS are so popular — so practical. They do a wartime job. They save valuable, costly time in installation, doing a better job, faster. They are built for lifetime service, backed with a lifetime warranty. DEXTER-TUBULARS conform with Federal Regulations and are available for prompt delivery on proper priority.

Are you familiar with the Dexter Bit-Guide — the tool that gives streamlined, factory production method to Dexter-Tubular installation? Simply clamp the Bit-Guide on the door — self-centering, no measuring — guides the bit straight and true.

Be a wise old bird yourself, use Lifetime guaranteed Dexter-Tubulars and National Brass Cabinet Hardware.
Program to Utilize Older Women in War Work Taps Our Largest Labor Reserve

The immediate and speedy development of an aggressive program to encourage and facilitate the increased utilization of older women in the war effort was declared to be of paramount importance by the War Manpower Commission’s Women’s Advisory Committee.

Actual employer experience with older workers (both men and women) has indicated that even where their productivity per unit of time has been relatively lower than that of younger workers, there have been other compensating factors. These are judgment, carefulness, concentration, patience, experience—factors which pay dividends in quality of product, salvage from waste and rejects, and often in long-run output.

It has been shown that while absenteeism on account of illness is generally higher for older workers, absences for other causes are much less frequent than for other workers—probably due to greater concern over job retention and a greater feeling of job responsibility.

Turnover rates among older workers are usually lower than for younger workers. The former are generally more settled and do less shopping around.

A Bureau of Census survey shows that of 5 million persons who last November were not in the labor market, but expressed willingness to take a full-time job, 1.6 million were over 45 years of age; and of these 1.3 million were women.

Survey Shows Rural Yards Lack Lumber

Returns thus far received in the lumber stocks survey being made by the War Production Board’s Lumber and Lumber Products Division indicate a critical reduction in inventories during the past six months, WPB said. A large number of yards report little or no stocks on hand and some report that they have been forced to close because they cannot obtain needed species, grades and sizes of lumber. Particularly in rural areas stocks are unbalanced in relation to local demand. The survey returns are designed to show in detail the areas and extent of the stock shortages.

“"The distributors’ response to our questionnaire sent to a 10 per cent sampling of the industry, is highly gratifying," J. Philip Boyd, Director of the Division, said, “Approximately half of the questionnaires have been returned to date but a greater coverage is necessary before working estimates of conditions can be made.”

Urging prompt replies from the remaining distributors, Mr. Boyd stated that the survey will give the Lumber Division the factual data needed for a program of production stimulation. Returns are being analyzed by the U.S. Forest Service and the over-all data will be released as soon as the survey is completed.

Steel Construction Items Treated as Class A, Not as Controlled Materials

An intensive advertising and promotional campaign will be conducted in war industry areas during the fall and winter months to support the National Housing Agency’s “Share Your Homes” program. The purpose is to provide additional living accommodations for essential war workers.

September and October are the months selected for this campaign which will center around war housing week slated tentatively for October 3-9. Sustaining activities will continue until the war housing need is met.

Prepared by the war advertising council in co-operation with NHA and OWI, the campaign will enlist the cooperation and support of industry and business to promote the following three-point program:

1. Property owners and tenants will be encouraged to open their homes to war workers and to list with the local war housing center all vacant space available which can be utilized without any expenditure of critical materials.

2. Other owners will be encouraged, where properties are not now suitable for use, to convert them into additional living accommodations for war workers, using either their own funds or conversion loans secured from private financial institutions.

3. Property owners who are unable to convert their properties, on their own responsibility, will be encouraged to lease their houses and buildings to the Government and let the Government do the job.

This campaign brings out forcibly (Continued on page 72)

Post War Government Plants to Be a Problem for Industry

The problem of what to do with government owned manufacturing plants and industrial facilities came into focus with the latest data on expenditures in this branch of the war program. In three years the Government has spent $25,000,000,000 in plants. Steel production has expanded to such an extent that the Government will own as much as 10% of the total capacity of steel production.

Aluminum will be produced in nine plants and fabricated in forty-five plants, and of these the Government will own more aluminum producing capacity than all the plants owned by private industry.

Magnesium production in government plants will account for 92% of the total capacity of all plants, government or private.

Machine tool plants, representing nearly one-half of the country’s facilities, will be owned by the Government.

Aviation investments of the Government will equal ten times the value of that owned by private industry.

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Campaign to Open Homes to 600,000 War Workers

Steel shapes, plates, bars, concrete reinforcing bars, and wire products used for reinforcing concrete, in controlled material form, which have been formed, bent, punched, welded, riveted, bolted, or painted, by the fabricator, or which have been cut to specific size or length for a specific construction project by the fabricator, are to be treated as Class A products instead of as controlled materials, according to Directive No. 24 to CMP Regulation No. 1, WPB.

The Directive now permits fabricators to accept orders for all steel items going into construction as if they were Class A products.

All of the items covered by the Directive, however, must be treated as controlled materials by the customer of the fabricator, in computing permitted inventories under CMP Regulation No. 2.

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There's a NEW "JEEP" in the military field!

This all-purpose building of strip steel

NAVY DEPARTMENT
JULY 4, 1943

IMMEDIATE RELEASE
PRESS AND RADIO

LIGHT GAUGE STEEL BUILDINGS FOR ADVANCED BASES
SERVE SOURCES OF USES

Many hundreds of galvanized steel, semi-circular utility buildings, each 40 feet wide by 120 feet long and holding 12 to 1000 men, are being put into service in all parts of the world. Hundreds more are in process of erection in the United States and overseas.

These buildings serve a multiplicity of uses. They are used for storing everything from ammunition to food. Some are recreation buildings with 400 to 600 seats. Every type of mobile shop equipment and repair operation can be accommodated in these units. They are so varied in their use and so well adapted to their environment that they are similar in the field only in name.

Yet these structures can be put up in about 300 man hours each. The arches are made of steel plate, the concrete floor. The arches are manufactured in sections and can be laid on the ground and bolted together. Except for the first couple of hours, the construction crew can totally complete the building in one day. The construction is done with one man. The operating costs for maintenance are low. The steel is easily pulled into place with a rope. The construct is completed and can be moved to another location without any damage to the building.

These units, which weigh about 25,000 pounds each, can be packed conveniently in crates only 20 feet long and 6 feet 6 inches wide and can be handled by a single man. The buildings are designed for quick building and easy transport so that they can be used for both military and civilian purposes. The steel is strong and light, and can be used for a variety of purposes.

Even before America entered the war, Stran-Steel was applying the full measure of its research facilities, design and fabricating knowledge to the development of better military buildings. Today the inherent strength and weight of steel framing have been utilized to best advantage, effecting economies both in the frame itself and in the collateral materials required. Many thousand cubic feet of shipping space—many thousand tons of shipping weight—have been released for other war equipment through these savings.

As the largest supplier of huts and military buildings for naval bases, Stran-Steel has acquired irreplaceable experience in design, coordination and supply. This experience is at the service of the armed forces.
How soon can building start?

Prompt and orderly lifting of the restrictions, freeze orders, and federal control that now stifle construction will be one of the first essentials to post-war business.

But how, when and in what order should these restrictions be lifted? Must the industry wait to the bitter end of both the European and Japanese wars, or until the last treaty has been signed? Must Europe be rebuilt before America? Should consumer goods production precede that of durable goods, such as building products?

Vast, pent-up demand

Certainly it is not too early for building men to start thinking and planning answers to these questions. There must be no let-up in production for war, but it is common sense and good judgment to do as much planning as possible right now for the orderly lifting of war restrictions.

Vast, pent-up demand for new homes, modernization, farm buildings and repairs. The barricade should not be moved all at once, but an early start is important.

For example, restrictions on farm construction materials and buildings should perhaps be lifted or liberalized far ahead of others, since the need for food at home and abroad is a prime necessity both in war and peace. Repairs, maintenance and reconstruction of many types of residential and commercial buildings are equally important. The time is almost at hand when restrictions on building materials for such work should be relaxed.

The housing shortage is daily growing more acute—not entirely due to war conditions, for there was a shortage before the war and our expanding population continues to make the need more acute with each passing day. The American public does not like the kind of emergency war housing that has been constructed. As soon as there is the slightest chance that new houses by private enterprise can be resumed without interfering with the war effort, L-41 and similar restrictions should be removed.

Homes or automobiles first?

Putting the public's money into land and housing is sound public policy. The building industry has sound basic arguments for insisting that restrictions on construction should be lifted before those on automobiles, radios, and many types of luxury consumer goods. But unless the building industry takes aggressive and active steps, it is very probable it will, as so often is the case, come out last.

What is needed is careful study and analysis of demobilization programs as they affect building. We are glad to say that many organizations, including such groups as the Producers' Council, the U. S. Chamber of Commerce, the Committee for Economic Development, and the National Association of Home Builders are engaged in such studies. In October the entire issue of American Builder will be devoted to analyzing and reporting the best opinions of experts on post-war.

L-41 should go quickly

Preliminary studies show that many of the essential products of construction are already becoming available in adequate amounts. In others—lumber, for example—the shortage continues to be acute and will probably extend into the period ahead. No one type of material should be allowed to hold up building activity. The industry has already shown its ingenuity in adapting itself to shortages. If the over-all limitations such as are included in L-41 are removed, the private builders of the country will find a way to go ahead despite shortages in some of the commonly used commodities.

As far as contractors and builders are concerned, an early resumption of construction is desirable and possible. They have the land, the experience, the desire and the know-how for an early start. The building of barracks, war plants and bases is tapering off. At the end of June $12,000,000,000 out of $14,580,000,000 of government-financed war construction was completed. Eventually ship-building and other forms of war
activity will pass their peak, and labor will become more plentiful.

Many of the industrial plants that produce building materials have operated right through the war and their products will be available immediately for civilian construction. This is particularly true of roofing, insulation board, gypsum products, cement, lime, and gravel. Other plants involving the use of critical metals and equipment will take, according to some surveys, from four to eight months to reconvert to peacetime products. Methods should be worked out as far as possible now for the more speedy production of certain key materials, such as copper wire and plumbing fixtures that might hold back new housing when it will be much needed.

Building manufacturers realize that a post-war market for their products may mature much sooner than they had expected. Without interfering with their wartime activities many are already laying plans and developing products for early use.

Residential builders, too, are busy preparing plans and laying out post-war jobs. An unusually stimulating and interesting example is that shown in the full-page advertisement of Bills Brothers on the page opposite. Here is a firm that is taking direct, practical action to prepare for post-war home building, and the plan being followed is worth careful study by builders in other sections.

In St. Louis the members of the local Builders Guild are engaged in an ambitious post-war home selling program which is bringing results. N. P. Ninneman of Camp Hill, Pa., has been selling post-war homes under his home builders' budget plan as described in the July American Builder—a program that has been very successful. When the war ends Ninneman will have a large group of buyers ready to start immediate construction of houses, most of them with their lots paid for and adequate funds in their budget account to more than cover the down payment.

A constant flow of letters from American Builder readers reveals that many are drawing plans, laying out subdivisions, and studying new building methods and techniques, so that they will be ready to resume building the moment government restrictions are lifted. A large percentage own building lots with all the various utilities already in and are only awaiting the go sign.

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An example of practical war-to-peace action: how Bills Brothers of Chicago plan to sell tomorrow's homes today.

The builders provide complete plans and specifications for the house, as well as a plot plan of the property. Down payments as low as $200 and monthly payments as low as $20 are provided for. The builder agrees to deposit the deed to the property in the buyer's bank, in his name, to be turned over on the day the deposits cover the land cost. Additional deposits toward the cost of the house are invested by the bank in U. S. Bonds.

Houses are to be built in the Bills' Northbrook Highlands, an attractive, well laid out community where 57 houses have already been erected ranging from $8,500 to $12,000.

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IN THE OCTOBER ISSUE: "From War-To-Peace with Private Building"—a complete analysis of positive post-war action to stimulate and encourage private enterprise building.
90 days after peace is declared
here is your home...ready to move into

PLAN FOR TOMORROW'S HOME TODAY!

Yes, there's coming a
morrow when war shall
be no more. And you
can plan for, yes, con-
tract for tomorrow's
home today! Have this
very one of six spacious
rooms with wide, natural fireplace; fine high
basement; large screened and glazed porch; smart
rumpus room; closest galore; oversize attached
garage—everything! Be guaranteed you'll have it.
Or, one as lovely and either larger or smaller
—with the room layout exactly as you like it. Yours—

YOURS by sealed contract today, with responsible guar-
antees given you now of base cost, of clear title, of
adequate financing, and of certain completion.

YOURS, with 57 other fine new homes surrounding it
of $6,500 to $12,000 value, all of them already built and
prudently owned by families in the $5000-$5000 annual
income brackets.

YOURS, with recorded restrictions preventing your
house duplication.

YOURS, with all the practical new ideas to be incorpo-
rated from the building industry's advanced war discoveries
and manufacturing experiences.

For as little as $200 cash now, and but $20 monthly
—all this can be yours...and by contract!

Get Your Deed Today

Today, for the site for this home, get your deed
to a large landscaped lawn, a whole third of an
acre, with rich deep loam for vegetables and
crops, with all improvements in and paid for,
located in distinctive Northbrook Highlands;

On the Wildwood North Shore, directly west of
Glencoe and Glencoe. In
the heart of Northbrook
with its lovely stores, fine
schools, and charming churches...
Close to town
in the 800 acres
of famous Sokie
Lagoons...Arms
on the road from
the bridge to the
protected
Forest Pres.
14 private
minutes
from
goal golf center.
...yet only 31/2 hours from Wiscon-
in's map.

Loop office.

BILLS REALTY, INC. • THE BILLS GENERAL CONTRACTORS
134 SOUTH LA SALLE STREET • STATE 0266

YOUR FIRST STEP—USE THIS COUPON

Right in your hands now is the means by which you can lay
the certain foundations today for your home tomorrow. We
are ready. Others will be ready. You can be ready, too. This
coupon is ready for you to make your start now. Use it.

BUILDING MATERIALS BY THE FOLLOWING OUTSTANDING CORPORATIONS:

Lumber, Beech Flooring, Illinois Brick, Chicago Pump, Stebbins Hardware, Crane Plumbing, U. S. Gypsum,
Calent, Ludlum Celulon, Seger Metal Stamping, Pittsburgh Plate Glass, Chamberlin Paints,
United Wallpaper, Johns-Manville Roof, Armstrong Linoleum, Chrysler Airtemp Heating, General Electric
Equipment, Hallmark Cabinet, Howard Door

THREE POINT PROTECTION

1 Deposit now in your bank to your name of deed
to your property; to be delivered over to you on the
day you complete your land cost deposits. Addi-
tional deposits invested by your bank in United
States bonds to apply to your house costs.

2 Title guaranteed by the Chicago Title and Trust
Company.

3 Agreement to build your specific house per-
suaded to detailed plans and specifications
terred into your by The Bills General Con-
tractors for a definite over-all base price sup-
ported by attached sealed bid of eighteen busi-
nesses and subject to emergency inflation, war,
and building post-war prosperity. And almost before the turmoil of war shall
have subsided, you will have the security of
your own fireside.

Safeguarded by every possible guarantee, you, your share toward
toward building post-war prosperity, then

A SAFE, SENSIBLE, PATRIOTIC PROGRAM

Consolidate both home purchase and land
site in one single package agreement. Safeguar-
ded by every possible guarantee, you do
toward the inflation, war, and building post-war prosperity, then

FREE: PLAN OF THE HOUSE, LOT PLAN

House plan and lot plat supplied without obligation. By appointment we shall show you
in the delightful homes which we already have completed for enthusiastic owners, everyone
whom is our reference. The spacious rooms, the substantial specifications, and the pleasing
details which today you can contract for in your
home for an early tomorrow.

THE BILL REALTY, Inc., 134 South La Salle Street, Chicago, Illinois

Gentlemen: I'd like, without obligation, to see:

1 Plan of this House
2 Plan of Land
3 A like new house just recently completed.

Name

City

Address

State

Copyright 1919 by B. F. Bills Inc.
PREPARE HOMES FOR COLD

1. Insulate attic floor or roof, heat-seal walls whenever practicable, heat-seal the ceilings of untenanted basements and cellars.

2. Equip homes with storm windows and storm doors, construct winter vestibules where feasible, seal off unused sections.

3. Weatherstrip all windows and doors, caulk cracks and seams caused by shrinkage and settling. Tape show and church windows.

4. Heat-seal parts of the home's heating plant. Hot water tanks, hot air chutes, heating pipes and furnaces need jackets.

YOU, the builders, contractors, carpenters and suppliers of the building industry have been called upon to officer a vast nation-wide mobilization to conserve fuel; to bend yourselves to the task of winter-conditioning every home and institution in the United States.

The Government is not fooling. Three most important government agencies promoting nation-wide conservation campaigns in order to release fuel, manpower, equipment and materials for urgent war purposes, have enlisted the coal, petroleum, electric, natural and manufactured gas, water supply, communications and transportation industries in this drive.

Co-operating in the program are radio, newspaper, retail stores and advertising departments of consumer industries.

REPAIR roofs wherever needed. Insulation needs a roof. REPAIR siding whenever loose. Windbreaker is needed.

NEWSPAPER advertising used in the campaign shown above.
One hundred thousand stores by arrangement with the Retailer's War Campaigns Committee are being urged to tie in their promotion windows and inside displays, space ads, and radio programs with the get-ready-for-winter campaign.

In all of this combined effort, success of the program depends upon you supplying the manpower to make the necessary installations of insulation, storm windows, weatherstripping, caulking, winter vestibules and construction necessary to winter condition homes and establishments in ten thousand localities.

The Government has taken every practical step to make home insulation and home winter conditioning a possibility for householders. For example:

(Continued to page 82)

TYPE of insulation selected depends on what should be done, whether the room is to be finished, and other features.
A BRANCH of service rendered by builders (who have the "know-how"), that seldom receives adequate acknowledgement, is the restoration of fire-damaged property. Fire, even though only a fourth of the structure is touched, not only destroys the money value of a property, but hundreds of small things such as letters, mementos, keepsakes. The builder, therefore, who knows how to restore the physical property to its original form and value (without including the cost of a new home), is very much like a physician binding up the wounds of a household—the pain is there, but the patient knows he will get well without too costly a convalescence.

Contractor F. H. Sell of Wichita, Kansas, is one man who has this background. During the depression when new building was rare, he went into repair and maintenance work, and of his own volition has remained there, for he found that here was one type of construction that needed a specialist, that the demand for this work was never lacking, that if one had the know how it was far more profitable than most new building, and that as most buildings carried some insurance there was less trouble in getting full payment. There is also no trouble today in getting materials for these jobs.

Today he averages about 600 repair and maintenance jobs a year; the majority of men are insurance jobs. He has eighteen men working for him full time, and when men were not so scarce he had thirty working. These jobs include an average of 75 fire losses a year restored; also wind losses—roofs repaired, screen doors, window glass, storm sash, all replaced.

Examples of some of the more unusual jobs are: Lightning struck a chimney flue on a school house, shattered it—other contractors considered the job would take weeks—Sell built a scaffolding around it, had it repaired with two men in one day. When a gas station exploded blowing a hole in the station wall, Sell tore out the wall and restored it again. The food market shown on these pages was nearly destroyed by fire, Sell restored it for $2,100, just after the first of this year.

The back of the house shown here was badly burned by a fire that started in the basement. In this job Sell had to lay new floor joists alongside the old joists, take out and replace the sub-floor and part of the finish floor. The basement itself will be finished in Sheetrock. The kitchen corner has to be redone. This job ran to about $3,500.

Contractor Sell of course works closely with an insurance company, taking their jobs as they come up. But he didn't have this connection until he had proved he could do the job. He doesn't try to make work or to make the work hard; he tries to find the quickest and best way to get the job done right. From this start it developed that he began to handle all of a big insurance company's maintenance work on buildings they had insured or controlled.

One of the largest office buildings in Wichita has become his particular charge. When private offices in this building had to be changed around because so many workers were lost to the army, Sell had the job of rearranging the partitions. He also put in the air conditioning ducts. When the city fire ordinance demanded that the glass panels in the elevators be replaced, Sell put in walnut panels with a metal core, which would come under the head of eliminating a fire hazard to passengers.

The biggest problem in Contractor Sell's business is labor. Approximately 75 per cent of his jobs are labor and only 25 per cent material. The biggest task is to train a man to handle one and two-hour jobs alone. There are of course many of these. Handling maintenance in big buildings, however, is good business for a contractor insasmuch as this work is done mostly in the winter and at night.
SINCE 1918 there has been a fire a minute in this country, 525,000 fires a year. Restoration of fire-damaged homes and other types of repair work can well be the basis of a specialized career.

When conditions were such that Contractor Sell could obtain more labor he used to construct such buildings as the new theatre he built in Mulvane, Kansas, for Sell also handles fire and repair jobs in surrounding towns such as Mount Hope, Cheney, Rose Hill, Belle Plaine. He is well known there, but has had to cut out all work except fire, windstorm, repair, HOLC conversion, and maintenance work for the duration because of the shortage of labor.

It may seem remarkable that as many as 75 fire jobs can be found a year in a town the size of Wichita, but when it is considered that since 1918 this country has averaged a fire a minute, or 525,000 fires a year, and that half of these fires have occurred in homes—it is apparent that there is work to be done by somebody.
SOLAR HEATING FOR POST-WAR HOMES
OT dreams or doodles, but actual houses heated during the daytime by sunshine are here and already scientifically tested. Of course, further application of solar auxiliary house heating must wait for post-war building, and with this in mind the Illinois Institute of Technology has released its report based on a full-year survey of the Chicago area home shown here. Libbey-Owens-Ford Glass Co. with the help of the owner and builder, Hugh D. Duncan, and the architect, George Fred Keck, collaborated in making the test possible.

Solar architecture requires, of course, unusually large windows to gain full advantage of sun-ray heat in winter. Thus the growing trend to sun-exposed exterior walls of glass, when combined with extended roof lines or sun shields, represents practical, sound construction, the Institute's Survey on this home reveals, without creating a problem of excessive fuel costs. Actually, solar heating as an auxiliary not only can offset natural heat losses through large expanses of glass but can be made to reduce fuel bills, even in climates having sub-zero weather. For example, on a sunny day in January when the outside temperature ranged from 5 degrees below to 17 degrees below zero, the sun-ray heat entering the living room automatically shut off the furnace at 8:30 a.m. and interior temperatures during the day ranged above 85 degrees Fahrenheit, at times necessitating the opening of windows, despite the fact that the furnace was not in operation from 8:30 a.m. until 8:30 p.m.

Part of this excessive heating was due, as the report points out, to the fact that the floor area, heated by hot water pipes buried into the concrete floor, could not cool off rapidly and thus added to the over-all heat in the living room even though the furnace had been shut off.

**Owners Enthusiastic About Solar Heating**

While solar or sun-ray heating is regarded as an auxiliary source, in no way dependent upon any one type of heating method, it is interesting to note the possibilities offered in developing a floor construction that can lose heat rapidly when desirable.

In commenting upon the reactions of the owners of the dwellings after living in the Keck-designed solar house for a period of months, the report says in part: "The owners (Mr. and Mrs. Hugh C. Duncan, Homewood, Ill.) constantly supplemented the author's personal observations as to the general comfort conditions within..."
TO determine how much of total heating was made up by solar energy, instruments recorded the portion of heat provided by the forced hot water system as illustrated here.

Mr. Sloan indicated that his winter fuel bills were considerably less than had been estimated for him by the Public Service Company of Illinois. Explaining that he had only figured heat loss through windows and had no previous record of figuring heat input by Solar means, the Public Service company representative estimated Mr. Sloan's fuel bill from Sept. 15, 1942, to June 15, 1943, would be $220. (On the basis of figures for 1,000 dwellings, the company's estimates average 90 per cent correct.) Mr. Sloan's actual monthly bills from the company, from Sept. 18, 1942, to June 15, 1943, totaled only $136, a savings of $84 or 40 per cent for one heating season.

"While I did not build the Duncan house, I am familiar with its construction," Mr. Sloan said. "The large windows on the south side are of Thermopane, a multiple glazed insulating glass unit incorporating the insulating principle of storm sash, except that the edges of the glass entrapping the dehydrated air have a metal-to-glass, permanent seal. This makes it possible to glaze the multiple panes of glass into one sash."

"Thermopane in double glazed form was used in the Duncan house, but in my own home, built a year later, I used triple Thermopane. I know the unit with two air spaces is even better for stopping heat losses, and that was responsible for a large part of the savings in fuel I have enjoyed."

"However, I am frank to say that even if I could not realize any savings in fuel, I still would prefer the Solar type of house because of the many advantages of having such extensive walls of glass. Many people come to my house just to investigate the ideas incorporated into it, and they leave in an enthusiastic frame of mind.

(Continued to page 94)
American Builder

JOB HELPS

Prepared by
Don Graf

Short cuts, time savers and how-to-do-it ideas shown in convenient 3x5 notebook size

for use in office or on the job. A continuing editorial feature appearing monthly.

Sheets or notebooks are not for sale or available from any other source than the editorial pages of American Builder.

HOW TO FIND SLOPE OF VALLEYS

The slope of a valley (or hip) formed by roots intersecting at right angles, but having different slopes, can be roughly determined from the chart below. EXAMPLE: A roof having a slope of 8" rise per foot of run intersects at right angles with a roof having a slope of 12½" per foot of run; the chart shows that the ridge or hip will slope at about 6½" per foot of run.

HOW TO PLAN A FUEL BIN

The bin with the center opening as shown will provide the maximum capacity for a given floor area. With a 7'-0" basement ceiling height the fuel can be trimmed to 5'-6" height, the height for which the chart has been worked out. EXAMPLE: A bin 9½' x 6 feet will hold 9½ tons of soft coal, or 6 tons of hard coal.

HOW TO PLAN AN IDEAL CLEANING CLOSET

An ideal size in plan is 6'-0" deep by 7'-6" wide. The ceiling height does not matter, unless anything over 9'-0" is of little use since it cannot be reached.
CUTTING the cloth to fit the ever-changing situation, as has been the constant need of private builders in war housing, certainly applies to Chicago. Here builders have waged a successful fight to share in the program under Title VI and have done such a good job that new government financed units have been kept to a negligible number. When single-family units were asked for, private builders delivered all they could get the go ahead on; when multi-family structures were demanded for economies, the switch was made even if the builders themselves were not sold on the idea. Housing was the important thing—the best that private enterprise could turn out under prevailing restrictions.

The Metropolitan Chicago Home Builders Association through its continuing efforts is largely responsible for this outcome. In recognition of this splendid job, the duplex shown here was selected with Association assistance as the second in American Builder's series of "Standardized War Models" to aid private builders. John R. Lewis, operating Fair Elms Homes, the concern erecting these Title VI units, is a vice-president of this Chicago builders group.

Like other similar buildings in and around Chicago, it represents the highest current housing value in the

This second in American Builder's series of standardized war models shows Chicago duplex using only 459 pounds of metal. Full PD-105 data given for this flexible unit.
with minimum material and space requirements. Only 445 pounds of steel and 13Vi pounds of copper go into each family unit. Up to the time Builder Lewis started these twenty-five duplexes (50 houses), his company had been putting up single-family Title VI houses as shown on page 40. These latest Fair Elms war houses share the increased property values resulting from a well improved development which has eleven miles of wide paved streets, sidewalks, street lighting, tree-lined parkways and utilities all in and in perfect condition.

John R. Lewis points out that a limited number of duplexes such as these can be absorbed as feeders in a high class property, but that about 5 per cent is tops. This is particularly true in an industrial section such as his where workers demand houses having the possibility of expansion to take care of later needs. Even in this compact five-room design having only 795.5 square feet of floor area, the basement has been carefully planned so that half of it is clear of utilities and obstructions; here another room can be finished. The balance of the duplex is planned with equal care and construction requires only 4.36 board feet of lumber per square foot of area. These masonry war housing units can be built as shown or with the kitchens on the outside by reversing

American Builder, September 1943.

Standardized War Home Model Selected by National Association of Home Builders

![Standardized War Home Model](image-url)
LIST OF MATERIAL AS REQUESTED ON PD-105 FOR LEWIS’ DUPLEXES
(Amounts shown below are for 50 housing units or 25 duplex houses; divide quantities accordingly for single or double units.)

<table>
<thead>
<tr>
<th>Category</th>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insect Screen Mesh</td>
<td>Windows, Doors and Vents</td>
<td>s/f 3,900</td>
</tr>
<tr>
<td>Roofing and Sheet Metal</td>
<td>Solder</td>
<td>lb. 25</td>
</tr>
<tr>
<td></td>
<td>Roof ventilators of aspirator type</td>
<td>no. 50</td>
</tr>
<tr>
<td>Lath and Lathing Devices</td>
<td>Corner beads for vertical corners</td>
<td>no. 1200</td>
</tr>
<tr>
<td></td>
<td>Nails, staples and tie wire for items under 270</td>
<td>lb. 1,500</td>
</tr>
<tr>
<td>Glazing Points</td>
<td></td>
<td>lb. 25</td>
</tr>
<tr>
<td>Builders’ and Cabinet Hardware</td>
<td>Door Hardware: Entrance to single units</td>
<td>no. sets 50</td>
</tr>
<tr>
<td></td>
<td>Rear doors</td>
<td>no. sets 50</td>
</tr>
<tr>
<td></td>
<td>Bathroom doors</td>
<td>no. sets 50</td>
</tr>
<tr>
<td></td>
<td>Interior and closet doors</td>
<td>no. sets 350</td>
</tr>
<tr>
<td></td>
<td>Clothes closets, coat and hat hooks</td>
<td>no. of closets 150</td>
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<tr>
<td></td>
<td>Screen doors</td>
<td>no. sets 100</td>
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<tr>
<td></td>
<td>Window Hardware: Double hung sash</td>
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<td></td>
<td>Cellar windows</td>
<td>no. sets 50</td>
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<tr>
<td></td>
<td>Window screens</td>
<td>no. sets 450</td>
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<tr>
<td>Miscellaneous: Shade fixtures</td>
<td>no. sets 250</td>
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<tr>
<td></td>
<td>Brackets for wood handrails</td>
<td>no. sets 150</td>
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<tr>
<td>Rough Hardware: Nails and screws no. metallic coating</td>
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<td>lb. 6,750</td>
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<tr>
<td>Electrical: Service entrance</td>
<td>Nonmetallic service cables</td>
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<td>Service cable heads</td>
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<tr>
<td></td>
<td>Service equipment, including enclosures</td>
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<tr>
<td></td>
<td>Interior wiring</td>
<td>Insulated single conductors</td>
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<tr>
<td></td>
<td>Electrical metallic tubing</td>
<td>Electrical metallic tubing</td>
</tr>
<tr>
<td></td>
<td>Roof ventilators of aspirator type</td>
<td>no. 50</td>
</tr>
<tr>
<td></td>
<td>Service equipment, including enclosures</td>
<td>no. sets 50</td>
</tr>
<tr>
<td></td>
<td>Outlet Boxes</td>
<td>Ferrous type: Enamelled</td>
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<td>Plates and Wiring Devices: Nonmetallic plates</td>
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<td>no. 1,100</td>
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<td></td>
<td>Wiring devices</td>
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<tr>
<td>Lighting Fixtures: Clamps, lock nuts, connectors, bushings and nipples</td>
<td></td>
<td>lb. 400</td>
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<tr>
<td></td>
<td>Hangers, straps, supports, sleeves and fastenings</td>
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<tr>
<td>Solder</td>
<td></td>
<td>lb. 12 1/2</td>
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<tr>
<td>Plumbing and Gas Distribution: Fixtures, fixture fittings and trimmings: Bath tubs</td>
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<td>no. 50</td>
</tr>
<tr>
<td></td>
<td>Lavatories</td>
<td></td>
</tr>
</tbody>
</table>

(Continued to page 92)
Builder Associations Merge.
United Front to Tackle
Many Industry Problems

Following months of negotiations, arrangements have finally been completed for the merging of the National Home Builders Association with the National Association of Home Builders of the United States.

While the terms of the merger have been formally approved by the directors of both organizations, according to Frank W. Cortright, executive vice-president of NAHB, the actual joining was scheduled to take place at a meeting at the Statler Hotel in Washington, August 26-27, called by NAHB president Fritz Burns.

Characterizing the merger as “a great step forward for builders,” Cortright pointed out that for the first time in history all but a few localized groups are now joined together in one strong, hard-hitting organization that can speak authoritatively for the entire home building industry.

“We are now able to present a united front at a time when single action and unity of purpose can serve us most. Not only can the war housing job be better coordinated and completed, but this joining of forces will put us in an excellent position to concentrate on post-war housing objectives,” he said.

Harold Schunenburg, prominent St. Louis builder and president of NHBA, becomes the new secretary of NAHB and a member of the Board of Directors. Also added to the Board of Directors and serving as regional vice-presidents are the following:

Ralph S. Duke, president of the Builders Guild of St. Louis, St. Louis, Mo.
M. Sanford Abbey, vice president of NHBA and of the Rochester Home Builders Association, Rochester, N. Y.

(Continued to page 78)
UNION CARPENTERS apply exterior grade plywood over 2" by 2" framing on standard jig tables in Texas plant.

**Texans break all prefab records**

16' x 16' "Victory" Huts shipped to all parts of world in record numbers. See big post-war market for low cost cottages, utility buildings. Ventilated roof is feature.

It took a trio of smart young Texans to really show the world what prefabrication and mass production could do.

Thousands of their "Victory huts" for the armed forces have been built and shipped to the far corners of the earth. Now they are making "Victory homes" for war workers, and at the same time looking ahead to peacetime production of extremely low-cost homes, cottages and utility buildings.

The Texas Pre-Fabricated House and Tent Company of Dallas is spark-plugged by Winfield Morten, H. F. Pettigrew and R. H. Hopkins, all under 40. Their first order for 600 units was received soon after Pearl Harbor, and since then production has soared to fantastic figures. More than 5,000 units were shipped in one month and today a productive capacity of 500 units per day is claimed for the Dallas plant.

Morten and his associates started out with a clever, lightweight, easily erected hip-roofed structure exactly 15' 10" square. It had an unusual ventilated roof feature that made the house ideal for (Continued to page 90)

STANDARD 16' by 16' unit as shown at left can be combined to produce larger homes or utility buildings. Quickly demountable.
"VICTORY" units are quickly bolted together, as quickly taken apart. Crew of six can erect house in 1 hour.

16 FT. WALL SECTION complete with door is handled by two men.
Ease of erection has been tested on all war fronts.

CAN a family live in a house less than 15 ft. square? They can, and large numbers already are. Furniture arrangement at right indicates how it's done. Ventilated roof consists of two layers of plywood with air flow space between.

LIGHT-weight construction features 2" x 2" studs; 2" x 4" joists specially braced; ¾" exterior grade plywood walls. All wood treated with Lowcks toxic water-repellent preservative.
VERALL constructive leadership being given by the Canadian Housing Administration to assure soundly built private war housing planned for continued usefulness after the war, was covered last month in the first of two articles. The basic plan as developed by the Housing Administration for a 1½-story design 22 x 30 feet was shown and advantages outlined; on these pages further adaptations of the same plan are presented.

The striking feature of this “expansible” design is that it fully serves the needs for housing all sizes of families, both now and later. Below is a single-story version with two bedrooms; to the right the plan is altered by moving the stair hall to provide three bedrooms or the one on the first floor can be used as a dining room and an arch cut through from the living room to open up the first floor.

It will be noticed that these variations as well as the basic plan shown in August have no openings in one sidewall. This permits two of these units to be placed together for duplex housing. As detached units, additional windows have been built into this wall, one design (not illustrated) using a corner window in the living room so as to leave good wall space.

Alternate elevations have been prepared and by combining them with these plans, enough difference between houses is secured to avoid monotony in a development. The Housing Administration architects had in mind the possibility of permitting the builder to go ahead with all his excavations and foundations first because of standard 22 x 30 size without having to decide just which design be built on any one site until buyers were signed up. They believe that such a group of designs

BELOW: 4-room single story Canadian war housing design with three alternate front elevations. Right: 3-bedroom 1½-story variation of plan.
Met by Canadian Private War Housing

ON THE same 22' x 30' foundation size, 4- and 6-bedroom war units planned for large families, particularly in Quebec area.

can be adapted to post-war use by operative builders. In their practical handling of the war housing problem, the Canadians didn’t stop there. Realizing that families of eight or more are not exceptional in some sections they didn’t expect these larger households to get along in two bedrooms. Above is shown their answer—a six-bedroom house with seven closets on the

same standard 22' x 30' foundation. Mother and father have the first floor bedroom next to nursery; older children sleep upstairs. The family life centers in the combination kitchen-dining-living room which can be divided by a partition. A porch adds extra living space and can be closed in. This first floor plan also can be used with a 2-bedroom second floor as shown.

A SIMPLE BASIC PLAN TO PROVIDE FROM 2 TO 6 BEDROOMS

CONSTRUCTION view of basic two-bedroom privately built war housing units in Ottawa; these are typical of Canadian program of careful planning and good building.
Walter H. Leimert, veteran Los Angeles subdivider and home developer, believes that the present generation of sun-tanned Americans has turned outdoor-conscious and will be much in favor, in the post-war period, of houses that open easily onto gardened courts and outdoor living rooms. California, Florida, and the South generally have pioneered the “living-porch” and patio ideas, he recalls, adding that builders in the more rigorous climate areas have adopted this theory by using extra-generous amounts of glass in their houses, for double-glazed walls, picture windows and French doors.

The post-war home, Mr. Leimert feels, is going to be a natural development from the best of the pre-war styles, yet influenced strongly away from the cramped, regimented quarters imposed by war housing, toward larger, open rooms and larger plots with outdoor vistas.

His current development, Beverlywood, a 330-acre tract adjacent to Beverly Hills, was opened just prior to the war by a public showing of the “Hospitality House” illustrated here. Indoor and outdoor living in the popular manner is provided for in the wide entrance garden and comfortable rear “living porch.”
Will Tie into the Big Outdoors

Predicts

W. H. Leimert

THE SNACK ROOM features informal hospitality: Dutch door leads to living-porch; to left is glimpse of serving counter opening to kitchen. ABOVE is view of front entrance through paved garden.
Small-Town Title VI Job For Post-War

Every one of these 30'-6" x 26'-3" war houses sold quickly

M ANY of the successful FHA Title VI homes sold by private builders to defense workers are located in small towns. An outstanding example is Marvel Gardens at Woodlyn, Delaware County, Pa., within driving range of a number of large shipbuilding and industrial centers.

These little 30'-6" x 26'-3" brick houses have real sales appeal—something that, despite impressions to the contrary, is still necessary. The war hasn't changed the fact that the American worker still wants a house that is distinctive, attractive, well built and designed.

This is exactly the approach used by Marvel Wilson and his associates in the Marvel Construction Company. This was one of the first Title VI jobs in the Philadelphia area and was built before materials and equipment were cut to the bone.

The dining room and kitchen layout shown on the accompanying plan is a result of an understanding of public wants. At first, a smaller kitchen-dining arrangement was planned which immediately met with sales resistance. By slightly enlarging the plan they made the kitchen-dining room as shown attractive and desirable with the result that sales right from the start were extremely successful.

In planning and perfecting the 52-home Marvel Gardens job, Wilson and his associates had the helpful co-operation of local Federal Housing officials, and of the regional director, Leo A. Kirk.

Each house is on a lot of minimum 54' x 134' size, and the layout of the job includes attractive winding concrete roads with high quality curbs and sidewalks.

The 30'-6" x 26'-3" floor plan, shown in detail, warrants study. All of the rooms have good exposure, there is little waste space, and there is space upstairs for an additional room. This plan may be turned, with either the 30'-6" side or the 30' side facing the street, and through variations in the gable treatment the houses can be given consider-
THIS DESIGN shows that small-town builders were able to pack quality, good design and good planning into war homes before present drastic restrictions went into effect.

able individuality. As shown on the accompanying details, there are front, side and rear entrances. One of these entrances may be left out, depending on the side that faces the street. The plans were drawn by Architect Allen H. Moore, of Fort Washington, Pa.

Construction features include: quality face brick, hardwood floors, extra large windows with interlocking weatherstrip, full 7' basement with cellar drains, oil-fired Mueller air conditioning unit, 4" mineral wool insulation, tiled floors and walls in bathrooms.

American Builder, September 1943.

FLEXIBLE TITLE VI PLAN with post-war possibilities used at Marvel Gardens. Permits various exterior arrangements, and may be turned with different sides towards street. Dining room and kitchen arrangement has buyer appeal. Allen H. Moore, architect.
Jobs for Builders in Sound Conditioning War Plants

Application of sound absorbing materials in noisy factories has resulted in increased efficiency and more production.

Unlike most new phases of industry, which begin in a small way and eventually develop into bigger jobs, the business of sound conditioning started at the top with installations in large offices, institutions and factories, and is now finding further wartime application and expansion by including a variety of small jobs.

This is largely due to the fact that sound conditioning was once thought of principally in terms of large areas, but now operators of small plants are recognizing its value for the heightening of mechanical efficiency by lowering the din of industry.

For instance, a Rhode Island industrial concern had a particular problem in the room housing the drop hammers and presses. This equipment occupies slightly less than one-half of the room's area. The opposite half of the room is used for manufacturing processes employing small drill presses, grinding and polishing machines, which are operated by women employees. The noise output in this department is not uncomfortably high.

However, noise from the drop and press section spread throughout the entire area in such volume that distraction and nervous fatigue interfered with the efficiency of the workers in this second department. To protect the women operators, a method of damping this noise was sought that would not require changes in the existing ventilating and heating systems. Upon the recommendation of Pitcher & Company, Boston acoustical distributors, the ceiling over the area occupied by the hammers and presses was covered with Acousti-Celotex Type C-6. The end wall was also covered to eliminate cross room reflections. The ceiling treatment was extended 40 feet beyond the location of the last two large hammers. No partitions or other barriers were erected between the two departments as this would have necessitated rearrangement in the heating and ventilating systems.

The result was a complete success. Noise from the drop hammer and press department was sufficiently damped so that what little residual noise carried into the women operators' department on the opposite side of the room was effectively masked out by the relatively low noise level present there.

A recent application in the plant of a New Jersey tool and machine company accomplished similar results. There the main problem was centered in the machine shop which constituted the "heart" of the plant's entire operation. The work done by the tool makers required the utmost concentration, thought and planning.

While the machine shop was not outstandingly noisy as compared to the production areas, in cutting tool stock occasional high-pitched sounds are emitted by the cutting tools. These sounds spread through the room, disturbing all of the men, and cutting down their efficiency.

Heat coming through the roof was another factor adversely affecting working conditions. Due to the importance of the work carried on in this room, the management desired to provide the tool makers with the most favorable conditions consistent with practical plant improvement. (Continued to page 95)
IN LINE with the present trends toward improved methods of constructing low-cost fireproof housing, or any type of one and two-story buildings for that matter, R. R. Colburn has designed and perfected a system that embodies many novel, yet sound, ideas. This system is based upon the use of pneumatically shot concrete—the entire structural strength of floors, walls, partitions, and roof being in the reinforced concrete.

The pan forms are light in weight, fast to assemble, without bolting or welding on the job, and are all in a standard width of 18½” center to center so that window openings fit all standard steel sash. There would be six standard lengths, plus angle pans for gables and valleys. The studs are slotted and spread on three sides so that wire mesh can be hooked on and the points bent back with a hammer, allowing very rapid assembly.

The pans are so shaped that when they are erected, the split cotter pin that holds them together also has an eye that holds a reinforcing rod in the proper position so that 2” x 2” 16-gauge welded wire mesh may be wired to them; then the mesh will be held ½” away from the flat face of the pan. The other end of the cotter pin also holds a channel shaped metal stud in place that acts as furring, and leaves a continuous air space in the wall as shown in the drawing below. The pans are so shaped that when concrete is shot in place on the steel forms, a triangular shaped reinforced concrete stud or joist, as the case may be, is formed.

A series of tests run at Marquette University, Milwaukee, showed that the standard floor section on 12 foot spans would carry a live load of over 350 lbs. per square foot, and that the wall section was stronger than an 8” concrete block wall.

Pan forms for a standard five-room unit should be erected and pinned together ready for concrete (Continued to page 92)
Low-Cost Greenhouse

A SMALL GREENHOUSE is an asset for starting seeds early and for beginners in the greenhouse enterprise. This low-cost house can be built with standard hot-bed sash. The length may be increased but the width should be kept within 10 feet, as shown, or made 20 feet. A well-drained site with a southern exposure protected on the north by buildings or a windbreak should be chosen. Heat may be supplied by a coal or wood stove or by hot-water heat from the farmhouse boiler. Sometimes small laundry stoves having water backs are used for circulating water through coils under the benches. When using hot-water heat the heater should be low enough to assure circulation.

MATERIAL LIST

- 91—8"x8"x16" concrete blocks
- 23—8"x8"x16" corner blocks
- 1 bbl. portland cement
- 1/2 cu. yd. mortar sand
- 14—1"x2"x8"-0" sash bars
- 10—2"x2"x12"-0" sash bars
- 4—2"x4"x10'-0" sash bars
- 6—2"x6"x10'-0" sill plate
- 4—3"x6"x12'-0" studs
- 2—rolls 30 lb. saturated felt
- 4—6"x9"x7'-0" corner studs
- 220 ft. 1 5/8"x6"x12'-0" bench
- 230 ft. 1 5/8"x6" beveled siding
- 1—2"x8"x14'-0" door frame
- 1—door—22"x5'-4" glazed
- 9—3"x4"x12'-0" benches
- 2—2"x4"x8'-0" benches
- 2—1"x10"x12'-0" benches
- 2—1"x8"x12'-0" benches
- 1—1"x8"x4'-0" benches
- 10—1/2"x4"x12'-0" benches
- 36—10"x12" glass, for gable ends
- 60 ft. 1 1/2" ridge pole & cap
- 2—2"x4"x10'-0" gable window sill
- 2—3"x6"x10'-0" gable window header
- 5 lbs. 8d common nails
- 5 lbs. 16d common nails
- 44 ft. 1 1/2"x1/2" gable end sash bars
- 1 1/2"x12" galv. metal panel chimney
- 100 ft. bm 1 5/8"x6"x12' bench bottom
A Pole and Rafter Barn

LOCAL MATERIALS are playing an important role in wartime farm building. Whatever is available locally in second-hand boards or timbers, cement block, stone or clay products, or second-growth logs and poles is utilized, and some good, serviceable stock and storage buildings have resulted. A pole and rafter barn of unusual interest along these lines was recently built in the upper Mississippi valley, following construction details developed by the Weyerhaeuser engineers at St. Paul. It is big gable roof shelter, 54 by 60 feet, supported by 16-foot poles (posts) for the outside walls and 30-foot poles for the purlin supports. The posts were butt-treated to prevent decay under ground, and were planted to a depth of 4 feet and 5 feet respectively, down to a poured concrete footing. The posts were set 10 feet apart, and each was carefully lined up and plumbed in the setting operation. Girts, 2 by 6 inches, bound the pole frame together. The rafters were 2 by 6's 20 feet long, spaced 24 inches apart.

STEPS IN ERECTING a pole & rafter barn. Left, workmen set the butt-treated poles plumb, on concrete footing pads; then cut off tops to desired height, as shown above. Braces, side girts, rafters, and outside covering are added as shown in photos to right.
Wartime Pointers to Help on the Job

More how-to-do-it ideas that will save critical materials and maintain building quality.

How to Save Power Tool Line
SEEN below at George F. Nixon's war housing job near Chicago is a reel to hold power lines for electric tools. By keeping the excess of such lines on this spool, hard-to-get cable is conserved.

How to Light Kitchen Counters
HOUSEWIVES like plenty of daylight on their kitchen work counters and frequently upper cabinets make this difficult. By taking out sections of the walls where bearing is not essential, glass block can be inserted as shown at the left. Construction details appear below.

How to Save Your Paint Brushes
IN the proper care and conservation of good brushes, which are among the most scarce of items, the following pointers should help: (1) Never force brush into corners or narrow places; (2) never use brush edgewise; (3) never dip entire length of bristle into paint; (4) never use large brush lengthwise on pipe or round surfaces but (5) use sidewise across such surfaces; (6) suspend in turpentine after use with bristle ends off bottom.
How to Stop Erosion of Concrete Structures

THE job of maintaining war plants is right up on the top of the list, and builders engaged in this work must be constantly on the watch for deterioration of reinforced concrete construction which will be particularly severe as always during the approaching winter season. Freezing water in surface cracks can do much damage if steel reinforcing is finally exposed.

Frequently such deterioration shows up around sash, and such cracks opened up will cause excessive heat losses, a serious happening these days. The sash themselves should be protected by proper painting from rust, if steel, and from rot, if wood. The five pictures here show an actual case of how damage done to a reinforced concrete building member was repaired. Mere superficial patching of such spots is not sufficient, but requires a thorough cleaning, and if any major steel is exposed, proper painting before any patch is applied. To give the needed protection against recurrence, a moisture sealing of the surface with a protective coating will do a thorough job.

How to Build an Individual Hog House

FOR sale to farmers and suburbanites, this individual hog house is a popular type. It has ample room for a large sow to farrow, and is tight, dry, warm and well ventilated. A top door can be opened for sunlight. This simple-to-build design is easily cleaned. Pig rails may be bolted in place and removed after farrowing. The joints of the Stonewall board floor, as well as roof and wall joints, should be bedded in caulkling compound.

Bill of Materials

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<th>Item</th>
<th>Quantity</th>
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<tr>
<td>4 x 4 x 8' Skids</td>
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<tr>
<td>1 x 6 x 8' Subfloor</td>
<td>12 Pcs.</td>
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<tr>
<td>2 x 6 x 8' Ridge and Rear Rafters and Plate</td>
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</tr>
<tr>
<td>2 x 4 x 10' Front Rafters</td>
<td>2 Pcs.</td>
</tr>
<tr>
<td>2 x 2 x 6' Girts</td>
<td>3 Pcs.</td>
</tr>
<tr>
<td>2 x 6 x 6' Ridge and Rear Sill</td>
<td>2 Pcs.</td>
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<td>2 x 6 x 6' Pig Rails</td>
<td>2 Pcs.</td>
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<tr>
<td>1 x 3 x 6' Buffer Strips</td>
<td>2 Pcs.</td>
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<tr>
<td>1 x 6 x 6' Door and Lid</td>
<td>2 Pcs.</td>
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<tr>
<td>1 x 4 x 6' Door and Lid</td>
<td>4 Pcs.</td>
</tr>
<tr>
<td>Stonewall Board for Finished Floor, Siding, Door Facing, Lid Top and Ventilator</td>
<td>6 Pcs.</td>
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<tr>
<td>Strap Hinges and Screws</td>
<td>5 Strap Hinges and Screws</td>
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<tr>
<td>Hasp, Staple and Screws</td>
<td>1 Hasp, Staple and Screws</td>
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<tr>
<td>Common Nails</td>
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<tr>
<td>Large Headed Roofing Nails</td>
<td>Large Headed Roofing Nails</td>
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<tr>
<td>Caulking Compound</td>
<td>Caulking Compound</td>
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How to Specify for Well Built Poured Concrete Basement Walls, Footings

In order to help builders do a good job of construction on the important item of basement walls and footings, the following specification is presented. It was prepared in condensed form by the Portland Cement Association as a model for this work; naturally it will be necessary to make such changes as the local conditions and particular job demand.

Materials

1. Portland cement shall comply with the current A.S.T.M. specifications for this material.
2. Aggregates for use in concrete shall be clean, well graded from fine to coarse and shall otherwise conform to the current A.S.T.M. specifications for concrete aggregates. Where aggregates conforming to these specifications are not obtainable, aggregates that have been shown by test or actual service to produce concrete of the required strength, durability, water-tightness and wearing quality may be used when approved by the architect. The maximum size of the aggregates shall be not larger than one-fifth the narrowest dimension between the forms in which the concrete is to be placed nor larger than three-fourths of the minimum clear spacing between reinforcing bars.
3. Steel bars or welded wire fabric used for reinforcement shall be free from harmful rust and dirt and shall otherwise conform to the current A.S.T.M. specifications for these materials.
4. Water shall be clean and fit to drink.

Concrete Mixes

Exterior Walls Not Less Than 8 In. Thick
1. Concrete shall be machine-mixed in the proportions of 1 volume of portland cement, 2 2/3 volumes of sand and 4 volumes of coarse aggregate (1:2 2/3:4 mix). Not more than 7 gal. of water, including that contained in the aggregates, shall be used per sack of cement.

Footings, Walls Less Than 8 In. Thick.
2. Concrete shall be machine-mixed in the proportions of 1 volume of portland cement, 2 2/3 volumes of sand and 3 3/4 volumes of coarse aggregate (1:2 2/3:3 3/4 mix). Not more than 6 gal. of water, including that contained in the aggregates, shall be used per sack of cement.

3. The materials for each batch shall be accurately measured by volume or weight to conform to above proportions and shall be mixed for at least 1 minute after all materials are in the mixer. The fine and coarse aggregates shall be so proportioned that the slump shall not exceed 4 in. in the event concrete is to be vibrated or 6 in. in case it is to be compacted by hand. In no case shall sloppy mixes be used.

Cast-In-Place Concrete Footings

1. Cast-in-place concrete footings shall be built to dimensions shown on plans, cast in forms true to line and elevation. (NOTE: General practice is to build footings having a depth equal to the thickness of foundation wall and 8 in. wider than the wall resting on the footing. Where soil conditions do not provide good bearing it is desirable to spread the footings over a greater area and to add longitudinal steel reinforcement according to local building code requirements.)
2. All footings shall be cast on undisturbed solid earth. In the event excavation is carried below the required grade, the depth of footings shall be increased.

Supplement for Wet Soil Conditions:

A. Where shown on plans, 4-in. diameter concrete drain tile shall be laid with open joints around the footing and drained to a suitable outlet with a slope of 1/2 in. in 12 ft. In no case shall the tile be lower than the bottom of the footing. Joints between the tile shall be covered with pieces of roofing felt to prevent sediment entering the tile during backfilling. The excavation outside the walls shall be filled with gravel or crushed rock or cinders to a depth of at least 18 in.

Basement Walls and Areaways

1. Forms for cast-in-place concrete basement walls shall con- (Continued to page 94)
Recently, a large independent fact-finding organization asked contractors all over the country what they thought of dry-built full-wall construction.

When the results were tallied up, here is what we found.

An overwhelming majority of contractors and builders believe that the dry-built, one-panel wall will be the wall of the future! These are the reasons they gave:

1. **SINGLE PANEL WALLS GO UP FASTER.** When Upson Strong-Bilt Panels are used in full-wall size, valuable building time is saved over tedious, old-fashioned methods of interior wall construction.

2. **LABOR COST IS LOWER.** One Strong-Bilt Panel covers the entire wall of an average room. Upson Floating Fasteners anchor panel securely from the back. No nail holes to fill because no face nailing is necessary. No joints to tape or hide.

3. **CRACK-FREE FOREVER!** Strong-Bilt Panels simply cannot crack, so there is no maintenance problem for these beautiful, easy-to-paint, single-panel walls.

4. **DANGEROUS MOISTURE IS OUT!** Trim and flooring are not exposed to undue moisture when Strong-Bilt Panels are used. Just think! Authorities say 1,000 pounds of water may be used in plastering the average small home.

Already, dry-built full-wall construction is beginning to take its place in plans for post-war homes, now on the drawing boards.

For booklets picturing the advantages of dry-built, full-wall construction, both in conventional and prefabricated homes, write The Upson Company, Lockport, New York.

**THE CRACKPROOF BEAUTY SURFACE**

WITH EFFICIENT INSULATING VALUE
"These are the times that try men’s souls", and the building business is no exception... what with shortages of manpower and materials, taxes and priorities, transportation delays and delivery restrictions!

But hold everything! There’s a Great Day coming!

Take time out from your troubles and do a little crystal gazing. See that picture up above? Take another look! For it’s a picture of your business when the boys come marching home... ready and eager to catch up on a lot of important living! Then there’ll be plenty of skilled help, all the materials you need, and plenty of jobs.

How do we know? Well, isn’t every community piling up a back-log of repairs, re-roofing, remodeling, and building? What’s more, people are saving their money for such home improvements. That’s the vision that makes these tough days easier...for it’s a future that’s coming true, sure as American shootin’!

Certain-teed Products Corporation
120 South LaSalle Street, Chicago (3), Illinois
In a very real sense, Curtis Woodwork opens—today—a doorway to tomorrow for architects who are planning post-war homes. For Curtis Woodwork offers two important advantages which will be "musts" in the post-war world. First, the beauty, the friendliness, the quality which prospective home-owners dream of today. And, second, such important features of truly modern construction . . . the greater resistance which wood gains through scientific toxic and water-repellent features . . . plus the enormous cost advantage of stock designs. You'll want to study the many new Curtis Woodwork designs as a stimulus to your post-war thinking . . . send for your free copy of the Curtis Woodwork book. Curtis Companies Service Bureau, Clinton, Iowa.

Post-war homes will need plenty of storage space—and this Curtis china closet not only provides such facilities, but adds charm as well.

Beautiful simplicity such as this calls for the very highest degree of designing skill. Yet this is stock woodwork—as manufactured by Curtis.

Even the smallest post-war home need not forego the charm of a beautiful entrance. In this Curtis design, informality blends with pleasing dignity.

Thanks to Curtis production methods, correctly styled and proportioned mantels are available at low cost for post-war homes. Curtis offers a wide variety of mantel designs.

Curtis stock stair parts offer the architect wide scope in designing stairways for all types of homes, in all architectural styles.

SEND FOR THIS BOOK. "New Woodwork in Tune with the Times" contains new woodwork ideas by outstanding American architects. Mail your request to Curtis Companies Service Bureau, Dept. AB-9W Curtis Building, Clinton, Iowa.
"Victory Wiring" Layout Saves Copper; Provides Adequate Service

A TREND toward engineered wiring layouts for homes, initiated by the Detroit Edison Co. some three years ago, has taken a detour along the victory road, and is credited so far with a saving of 1,200,000 pounds of copper in the construction of small defense homes in the Detroit area.

The idea of carefully engineered and planned wiring was aimed originally not at conservation of materials but at providing convenience and adequacy for future growth of the electrical load. In the necessity of war, however, it was a simple matter to switch the idea to conservation—achieved through advance planning which accounts for every outlet and every foot of wire going into the house.

In their development of "Victory Wiring" the Detroit Edison engineers have worked in conjunction with the Electrical Association of Detroit. The Federal Housing Administration immediately recognized the advantages of the plan and is making use of it in Detroit's urgent war-housing program, comprising many thousands of dwelling units. Donald Nelson, head of the War Production Board, has personally acclaimed the important copper savings effected.

Victory Wiring is simply engineered wiring, with economy of materials made the prime consideration. But other inherent advantages of the blueprinted layout are such that Detroit Edison engineers hope the building industry never will return to the sort of extemporaneous wiring which generally has prevailed in residence construction.

Under the conventional system of residence wiring, several circuits are run from the main switch in the basement. One circuit runs to the range, and the others to various parts of the home for lighting. As a rule, these lighting circuits are not planned to fit any standard pattern, but are installed in any manner which seems easiest to the person doing the work. Little thought is given either to conservation of materials or to a possible future demand by the home owner for additional outlets.

Engineered Victory Wiring, on the other hand, is made up of a system of sequence circuiting. One circuit goes from the main switch to the range. All additional wiring in the home branches from a fuse panel located above the range. Wires from this point follow a plan of utmost copper economy.

The total number of outlets provided is as allowed on the WPB critical materials list, but their location is adjusted in the plan for maximum comfort, convenience and adequacy.

An outlet is located with careful consideration of the work. Little thought is given either to conservation of materials or to a possible future demand by the home owner for additional outlets.

Engineered Victory Wiring, on the other hand, is made up of a system of sequence circuiting. One circuit goes from the main switch to the range. All additional wiring in the home branches from a fuse panel located above the range. Wires from this point follow a plan of utmost copper economy.

The total number of outlets provided is as allowed on the WPB critical materials list, but their location is adjusted in the plan for maximum comfort, convenience and adequacy.

An outlet is located with careful consideration of the work. Little thought is given either to conservation of materials or to a possible future demand by the home owner for additional outlets.

Engineered Victory Wiring, on the other hand, is made up of a system of sequence circuiting. One circuit goes from the main switch to the range. All additional wiring in the home branches from a fuse panel located above the range. Wires from this point follow a plan of utmost copper economy.
Today's crowded restaurants highlight the need for daylight engineering in tomorrow's restaurants. An atmosphere of spaciousness and light will add materially to the comfort and satisfaction of the dining guests.

To achieve these surroundings, rooms do not necessarily have to be large. Through use of larger window areas, translucent decorative glass walls and plate glass mirrors any room can be made to appear spacious, cheerful and inviting.

The translucent and transparent qualities of glass can also play an important part in the design of other restaurant features. The sanitary, acid-resisting surfaces of glass make possible entirely new and different work surfaces. Vitrolite walls or wainscoting will find increased acceptance and use because of its easy-to-clean, easy-to-look-at finish.

Libbey-Owens-Ford Glass for windows, mirrors, wainscoting and work surfaces, and Blue Ridge Glass for partitions, are available in a wide variety of types and colors. Be sure your records of this glass are complete. May we send you complete information? Libbey-Owens-Ford Glass Company, 2593 Nicholas Building, Toledo 3, Ohio.
For the thousands of homes that need
NEW LAUNDRY TRAYS

Here is a real opportunity for wide-awake contractors.

With laundry service greatly curtailed, thousands of housewives are facing washing problems with obsolete laundry trays, or worse still, with no trays at all.

These problems can be eased by installing permanent Perma-Gloss laundry trays which are once again available to fill this need.

They have been installed in tens of thousands of pre-war homes and today are a salvation for their users.

There is nothing more sanitary than a Perma-Gloss laundry tray. Its gleaming white surface is easy to clean. There is no paint or enamel to peel, no iron to rust and stain clothing. The tray is acid-proof, not merely acid resistant, and will withstand thermal shock.

We will gladly send you full details on sizes, prices and delivery.
When you sell TEXACO you're selling a Famous Brand ... that millions know!

Roofing buyers want more than just a roof. They want the assurance of quality that goes with a reputable name. Texaco is a brand name that millions know. And it has built a reputation in the roofing field for long life, good looks, protection and economy.

That's why, when you sell Texaco, your selling job is simplified. People right in your community who need new roofs ... know Texaco!

When you sell Texaco there's always a convenient Texaco warehouse nearby. That helps you to operate with a minimum inventory ... on a lower investment ... enjoying faster turnover.

And — when you sell Texaco you are selling asphalt roofing ... the most popular type in America. Actually more than twice as much asphalt roofing is sold each year as all other types combined.

Texaco Asphalt Shingles and Roofing are available through Texaco Roofing Dealers supplied by a large network of Texaco warehouses — east of the Rockies. Drop in, write or phone your nearest Texaco Roofing Dealer, or write The Texas Company, 135 East 42nd Street, New York 17, N.Y.
MPR 251 MAY BE REVISED:
This existing cost control order is about to be drastically amended and implemented by OPA. Should this be done, builders of war housing and their subcontractors must brace themselves for a severe shock. In spite of the fact that all residential construction since L-41 has been built to meet pre-determined, rigidly controlled sale and rent levels, OPA now intends to take totally unnecessary action in setting up and enforcing a further regulation. In the case of public housing, both subcontractors and contractors would be affected. As now written, the order will cover "buyers and sellers" (owners and contractors) of construction services, materials and equipment in connection with the construction of dwellings, apartments, dormitories, farm houses, hotels, garages, sheds and the like; and labor and repair work necessary thereto.

HOME BUILDER'S RESPONSIBILITY: Proposed order does not require the owner—in most cases the home builder—to make any accounting to the OPA as to his costs or profits (if any). It is his responsibility, however, to see to it that all contracts from whom he "buys or receives any building materials or equipment on an installed basis or any construction service" make no charge higher than that permitted by this regulation. He must secure a written affirmation that the prices charged do not exceed the maximum prices established by the regulation, otherwise he is equally liable.

MAXIMUM PRICE FOR SERVICE: Maximum contract price on a unit-price or lump-sum basis shall be an amount not in excess of the sum of the following:
1. Estimated cost of materials and equipment. (a) Costs as computed must not exceed prices permitted by any applicable price regulation of the OPA; and (b) When materials or equipment are regularly manufactured or processed they shall not be sold on an uninstalled or installed basis, in excess of the maximum price permitted under any applicable price regulation on a sale of such materials or equipment to a third party in the same class.
2. Estimated labor costs. These costs shall not be used in the computation at a higher rate than prevailed in the area on July 1, 1942, for the same classes of mechanics or labor employed in comparable work.
3. Other estimated direct costs, including the cost of subcontracts. In the computation these shall not exceed maximum prices fixed under this regulation or by any other applicable price regulation of OPA.
4. An estimated reserve for such contingencies as the seller in good faith can reasonably foresee. Provided that none of these items come under (1), (2), and (3) above.
5. A margin to include administrative and overhead costs, selling expenses, and profit in excess of an amount which: (a) During the base period January 1, 1939, to March 31, 1942, constituted the seller's highest actual margin on a comparable sale made between the same type of work; or (b) If the seller realized a dollar-and-cents loss on the only comparable sale made during the above-specified base period, his estimated margin on a comparable sale; or (c) If the margin cannot be determined under the above, a margin which would have constituted the seller's margin in March, 1942, on a comparable sale involving the same type of work and based on the seller's own general experience or the experience of the industry on such comparable sales.

CONTRACTOR'S OBLIGATION: The subcontractor must certify that his profits are not more than his high- est actual margin on a comparable transaction made between January 1, 1939, and March 31, 1942. Furthermore, he is not permitted to compute his labor costs on a basis higher than those existing on July 1, 1942. Apparently it is presumed that the additional labor costs which exist almost universally should be absorbed by the contractor. In many instances this would far exceed the margin of profit allowed. To expect contractors to operate under these conditions is obviously ridiculous.

UPON COMPLETION: Upon completion of the job, the subcontractor must certify that he has conformed with the regulation. The average subcontractor, upon whom the home builder is dependent for the accomplishment of his part of the war housing program, will be dismayed by the requirements of this order. In many instances he will not have either the facilities or the courage to operate under it. If the order is issued, it may well be disastrous both to publicly and privately financed war housing.

STUDY ORDER: The above resume is incomplete and somewhat hastily
American Builder, September 1943, made. There are certain provisions proposed under which applications for adjustment may be made and penalties for violation, including suits for treble damages, are specified. The necessity for filing a license is stated. In proof that OPA does not lack a sense of humor, section 8 states that "prices lower than maximum prices may, of course, be charged and paid." Contractors struggling under constantly higher labor and materials cost will appreciate this.

CRITICAL OCCUPATIONS LIST: The omission of war housing from War Manpower Commission's recently issued list of critical occupations has created some misunderstanding with regard to the essentiality of our industry. In an official interpretation made yesterday, the WMC states that this new list of critical occupations does not replace the list of essential activities and occupations which has previously guided Selective Service Local Boards in considering occupational deferments, but—"It simply tells local boards that among the occupations on the previously issued list, the 149 named on the list of critical occupations are those most urgently needed in war production or in support of the war effort. The decision in each individual case, subject to the right of appeal, is made by the registrant's local board. The list of 'critical occupations', 'essential activities and occupations', and 'non-deferrable activities and occupations' are issued by the War Manpower Commission to guide the local board in making these decisions."

NEW ESSENTIAL LIST: In a new list the War Manpower Commission has made a few additions to the 35 activities previously classified as essential. No activities were dropped and no changes were made in the supplementary list of nearly 3000 key positions within the designated industries. It is heartening to note that the 'essential' classification was extended to the production of certain construction materials such as paint and gypsum products. Also the manufacture of portable and prefabricated buildings is now listed as essential.

WAR HOUSING FOR OWNER: The provision in NHA General Orders 60-2A and 60-3A permitting a war worker to build his own home has been the subject of considerable query on the part of builders. FHA's P8 Letter No. 223, recently issued to the (Continued to page 68)
American Builder, September 1943.

The administration of our huge Army, Navy, and Air Force is big business. There are vast organizations to be supervised, supplies to be purchased in enormous quantities, huge shipments of men and materials to be planned and accomplished.

Large staffs of officers and men are needed to do the mountainous "paper work", and their headquarters are Buildings, at every base throughout the nation. Much of the tremendous amount of hardware required for doors, windows, and cabinets is supplied by Stanley.

Stanley's already large production facilities have been stepped up again and again, but the demand for this, and other war requirements is unceasing. As a reward for merit in performing this important war job, the "E" Flag now flies over our plant. The Stanley Works, New Britain, Connecticut.
Why THERE IS

A SHORTAGE OF RED CEDAR SHINGLES

1. The shifting of manpower to war jobs and the armed forces
2. The imperative demand for Certigrade shingles for essential war housing
3. An unusually bad winter for logging
4. The substitution of Cedar for frozen lumber, and the use of Cedar logs for pulp

Insofar as the war permits, the manufacturers of Certigrade Shingles are striving to maintain an equitable distribution among their dealer friends... RED CEDAR SHINGLE BUREAU, Seattle, U.S.A., and Vancouver, B.C., Canada.

THIS IS OUR WAR — LET'S FIGHT IT NOW!
Tomorrow's home owners are looking forward to the day when houses will be built with no need for priorities or material restrictions.

To aid in keeping alive the interest in homeownership—to sell more prospects on the idea of saving today for a home of the future—Crane Co. has prepared a colorful booklet filled with suggestions on bathrooms, kitchens, and heating systems.

This booklet together with an extensive questionnaire is being sent to thousands of prospects and is being widely advertised in magazines of national circulation. This whole program is promoting the kind of homes you will be building when the war is won.

But more than that, thousands of prospective home owners are telling us what they want in plumbing and heating after the war. You are thus assured that the Crane line of the future will reflect the desires of your prospects and will offer you many sales advantages when installed in the homes you will then be building.
War Housing Items
(Continued from page 64)

field, gives the official interpretation of this amendment. Permission may be given to an immigrant and war worker to build or have built for him his own home. Such a house must, of course, be constructed within the prescribed limitations for the use of critical materials, and it must be established that the worker is primarily concerned with providing his own living accommodations. In such cases the proposed owner-occupant must file the usual PD-105, including the stipulation of rental in Section B of this form. To insure against the use of this provision to circumvent rental restrictions in 60-2A and 60-3A, FHA further requires a statement signed by the worker and his builder, certifying that the application is being made of his own free will and for the sole purpose of providing a home for himself and his family. Sections I and II of NHA Form 60-8 must also be completed and filed with the PD-105.

FOURTH QUARTER ALLOTMENTS: An analysis of the fourth quarter allotments of critical materials for the war housing program makes the whole picture look better. It isn't so much in the actual amounts of materials made available as in the procedure to be followed that there is cause for a feeling of optimism. Stated in terms of materials, a total of 65,000 tons of steel and 1,300,000 pounds of copper will be made available for the entire program. It is significant that these are the amounts requested by NHA as the claimant agencies. Thus there was a reduction in the amount requested is a slight apprehension previously expressed in this respect.

"KITTY" ESTABLISHED: The really encouraging sign is that a new method of allocation is being employed so as to provide "elbow room." The war housing program is to have called on a "kitty" involving some 45,000 tons of steel, in case additional allotments are found to be necessary. In other words a supplemental reserve is being set up to take care of the need of several programs. Housing will be permitted to share in this pool.

CLASS "B" PRODUCTS: Under another modification in the procedure certain class "B" products that are particularly important to housing will be included in the allotments. Thus, such items as space heaters and kitchen ranges will be provided for in a positive way. This may seem complicated but it is actually quite the reverse. Official believe that under the new system will be much easier to insure a sufficient supply of these major class "B" products. The amounts involved for such products will be allocated back to the industries divisions.

DISTURBING LUMBER BE MORS: Viewed from any angle the present lumber situation is a dark one—with rising prices and increasing military demands on one hand, and dwindling stocks and lagging production on the other. No betterment is predicted in the immediate future with the possible exception of a slight easing of 3" and 4" thick structural grades.

"STANDARDS" MAY BE CUT: Making a dark picture even darker are the rumors currently circulating that further cuts in the War Housing Construction Standards are under discussion. Rumor has it that a reduction is again being considered in the amount of 2" thick dimension lumber to be allowed per square foot of floor area. The amount allowed under the present standards is so close to the irreducible minimum, it is believed that very little, if any, lumber can be saved by cutting below these quantities. Certainly no good purpose will be served by tightening the standard again to the point where builders cannot meet them.

RECONDITIONED WAR HOUSING: High on the list of problems which must receive early consideration is the question of what to do about Title VI housing after the war. Obviously the housing built under the phase of the FHA program during the war period has had to be trimmed down to bare essentials. Moreover this trimming down process has been...
A great reforestation project covering thousands of acres is being carried on constantly in the state of Mississippi... The "crop" to be taken from these trees is not just ordinary wood, but the cellulose fiber and lignin of which wood is composed.

From today's crop, trees are literally taken apart by an amazing explosion process. Next, the fiber is interlaced to provide equal strength in all directions. Then — in varying degrees of plasticity in different weights and densities — it is welded together again, using lignin's great bonding power to produce hardboards of remarkable properties.

These ligno-cellulose hardboards are known as the Masonite* Presdwoods,* and they are perhaps the most versatile materials the world has ever known. They have tremendous strength. They are easily worked yet are warpless, chipless, splinterless, when properly used, and will take a baked finish... can be painted, bent and accurately machined on wood-working tools to almost any shape.

Right now the Presdwoods are in the firing line of war; they have more than 500 uses in America's great victory program, releasing for vital purposes rubber, steel, aluminum, and other strategic materials. Naturally, they are not readily available for the usual civilian purposes. But after the war they will again be plentiful for the homes you build or design... in such uses as for sturdy exteriors, beautiful walls and ceilings, built-in furniture, kitchen cabinets and counter tops, and many others. Masonite Corporation, 111 West Washington Street, Chicago 2, Illinois.

In the cases where the houses have been sold this does not present a particularly serious problem. However, what to do about the houses that the builder still owns and that he has been renting to war workers is something which should be decided now. Conceivably builders in this predicament will stand to lose many of their war worker tenants after peace returns. They will be left with houses on their hands which, though potentially marketable, will need some work done on their kitchens and bathrooms and certain other additional equipment before they can be readily sold.

FINANCING PLAN: A plan should be worked out at this time whereby refinancing can be done under Title VI to make the necessary additions to these houses to insure their marketability. It is no fault of the builders that such houses will find themselves facing a slow market after the war. It also should be realized that the problem is far from being an academic one as far as the FHA is concerned. Unless the builders are aided in refitting and refinishing these houses, they can throw up the sponge and let the FHA foreclose and start to do some worrying on its own account. In practically every instance it would only require a small additional loan to convert these houses into attractive homes for those seeking accommodations in the early postwar period.

FURNACES AND WATER HEATERS: Limited production of furnaces, stoves, ranges and water heaters will be permitted under recent amendments to Orders L-22, L-185 and L-23c. Under the controlled materials plan, materials will be allocated for the production of these items at a rate based on actual requirements of the Army, Navy, Maritime Commission, War Shipping Administration, war housing and essential civilian uses. Production of repair parts for furnaces or parts necessary to convert furnaces from oil or gas to coal, will be unrestricted.

LUMBER ORDER L-290: Procedure under L-290 has recently been revised to speed up authorizations on deliveries of western lumber restricted under this order. On Form WP-2720 (a revision of PD-872) the prospective purchaser will now make application for delivery authorization only after he has obtained assurance from the producer that the purchase order—if approved—can be filled. The preference rating authorized for the lumber will be stated on the application. Authorizations on this new form will state the time that deliveries are to be made, and both the prospective purchaser and producer will be notified of the action taken by WPB. In this way the producer who has earmarked a shortage for a particular builder will know when to ship, if the delivery is approved. If it is denied, this will be his notice to release the lumber for other purposes.

FLOORS OF THE FUTURE

What Will They Be?

You read much about the "house of tomorrow"—predictions that new forms of glass, metal, plastic, and plywood will be found in every room... that kitchens will be mechanical wonders... that bathrooms will be like those in the movies... that windows will wind up and down like those in an automobile... that roofs will slide back and forth at the owner's command.

What about the floors? What kind of flooring will be used in the "house of tomorrow"? Of one thing you can be certain... that it will be made of hardwood. No satisfactory substitute has been found for hardwood floors. No other material has its warmth, beauty, economy, durability, and other desirable qualities. You can also be certain that the new postwar flooring will be a product of E. L. Bruce Co., world's largest makers of hardwood flooring. The two major flooring improvements of the past 25 years have been developed in our plants—first, unit-wood block flooring for use over concrete; later, prefinished strip flooring known as "Streamline."

Our wood experts, engineers, and chemists are continually conducting research work to produce a better hardwood flooring to match the improvements in other building materials. We can't tell you now what the new postwar flooring will be. But you may rest assured it will be a Bruce product.

E. L. BRUCE CO:
Memphis, Tennessee

(Continued from page 68)
Another TEMLOK IDEA

This time for a professional man

There's a doctor, dentist, or lawyer in your city who's thinking about renovating his offices. Let Armstrong's Temlok De Luxe help you get the job of turning those offices into a smart, modern suite like the one shown here. First of all, give your customer an idea of what the finished job will look like, by showing him an attractive reproduction of this sketch. We'll send you one free.

You'll want to explain how new walls and ceilings of this material are so economically installed that his whole layout can probably be done over—well within today's limitations on remodeling. That's because the panels, planks, and boards of Temlok De Luxe are quickly applied right over existing surfaces, or furring strips, with little if any preparation. And there's no finishing to do, for Armstrong applies the practical, decorative colors at the factory.

The saving in time of installation gets you around the problem of labor shortage, too. And it's surprising how many of these profitable remodeling jobs you'll sell—and be able to handle—when you use Armstrong's Temlok De Luxe to build, decorate, and insulate, all in one simple operation.

FREE MOUNTED ENLARGEMENT of the sketch shown above, to help you get your share of this profitable business. Write for it, and ask for other sketches, too—attic, shop, and basement playroom. We'll send samples and complete information about Temlok De Luxe. Armstrong Cork Company, Building Materials Division, 1609 Ross Street, Lancaster, Pennsylvania.
was then taken apart and the members used as templates. As pre-cutting was done the pieces were numbered and dropped by trailer on the site. It seems clear that the challenge of prefabrication in the post-war years will be met by such methods of economy and speed as are being devised by our outstanding builders.

Washington News
(Continued from page 25)

once again the imperative necessity of keeping the present supply of homes in adequate repair. With crowded conditions it is even more important to conform to decent standards of health and sanitation.

It is once more called to the public's attention that conservation L-41 does not actually limit necessary maintenance and repair which does not change the structural design of the property, and that work not to exceed $200 may be done as far as new construction or remodeling is concerned.

Loans to finance essential repairs are available under the FHA Title I program in amounts up to $2500 from approved private lending institutions. In war industry areas, however, loans are available for the remodeling of existing properties into dwelling accommodations up to $5000 and these loans can be repaid in monthly installments over a period of seven years.

During the first six months of 1943, 129,447 property owners used FHA's Title I program to finance essential repairs, fuel conservation improvements, or remodeling for war worker occupancy. These loans totaled over $39,000,000.

Properties now being converted into additional family units under the "Homes Use" program, will soon provide accommodations for more than 28,000 war worker families in war industry centers. In the first half of the year leases under the publicly financed program have been made to provide 16,600 family units and HOLC negotiations have under consideration 6,575 more. These leased properties have saved the government more than $23,000,000, if the cost of remodeling is compared with the cost of new construction.

A total of 23 national organizations, with a combined membership of 50,000,000, have already pledged assistance to FHA in its program to obtain adequate living accommodations for migrant war workers. More than 600,000 in-migrant war workers must secure living quarters in existing dwellings during the next twelve months.

Army Controlled Construction Items to Be Distributed to Industry

Procedure for disposal of present surplus government owned and army controlled industry property, has recently been announced by the War Department in a revision of Procurement Regulation No. 7, which can be obtained by addressing the legal branch Purchasers Division, Headquarters Army Service Forces, War Department, Washington, D.C.

Surplus property will be listed in five categories: 1) Critical equipment items, such as steel valves, pressure vessels, heat exchangers, pumps, compressors, machine tools, etc. 2) Construction equipment. 3) Equipment in other industrial property, not included in the other categories, which should be redistributed on a national basis. 4) Controlled materials, including copper, steel, copper base alloy and aluminum, and 5) Property which can be practically distributed on a regional, rather than a national basis.

After an item of surplus has been circulated for twenty days, and has not been closed out for direct use by government agencies, or war contractors, it may be sold to dealers or jobbers; or returned to manufacturers for industrial use.

Nails, Wire, Fence Posts
Allowance Increased in Some Areas

The War Production Board has granted permission to warehouses in certain western states to increase their purchases of several steel products for farm use.

Direction 1 to Conservation Order M-21-B-2 permits additional allowances to warehouses of nails, various wires and fence posts. These warehouses are located in the states of Kansas, Montana, Nebraska, North Dakota, South Dakota, and Wyoming.

(Continued to page 77)
extra protection where it’s needed...

Flintlock shingles interlock against wind—like this

Where re-roofing jobs must stand up to stormy weather, Flintlock Shingles win.

They interlock without clips or other devices ... give extra protection against high wind and wear ... save up to 50% in nails, with a corresponding saving in labor time.

Flintlocks go on readily over old roofing surfaces. They are fire-resistant. They have the consistently high quality you expect of all Flintkote products.

Available in many handsome colors and blends, Flintlock Shingles are especially favored for farm re-roofing use.

Profitable to your customers because they save application time, reduce possibility of wind damage and hold down upkeep costs, Flintlock Shingles are also profitable for you. Stocks are available for convenient delivery.

THE FLINTKOTE COMPANY, 30 Rockefeller Plaza, New York 20, N. Y.

 WHEN WINDS BLOW, FLINTLOCKS HOLD SNUG
Flintlocks measure 17” x 17”, with sidelap of 3¼”. A square of 77 shingles weighs approximately 153 lbs. Colors include: Autumn Red, Bluetone Blend, Spring Green, Blue-Black, Clover Green, Tile Red.
 Increases to Lumber Producing Labor Voted by War Labor Board

In order to break up a critical war production bottleneck in the lumber industry, the National War Labor Board has authorized three regional boards to grant blanket approval for a 50c minimum wage in the lumber industry in their area.

The lumber industry of the South and the Great Lakes region included in the War Labor Board's fourth, sixth, and eighth regions with headquarters at Atlanta, Chicago, and Dallas are covered by the authorization.

The War Labor Board by unanimous vote approved the recommendation of the Lumber Policy Committee of the Federal Government proposing the 50c minimum wage for lumbering workers in these three regions. Regional boards were authorized to fix such a minimum by a general order.

Procuring Products Up to $500

In cases where specific WPB authorization is not required under Order L-41 to begin construction, CMP Regulation No. 5 procedures may be used to obtain required materials and products up to $500 in cost.

However, CMP Regulation No. 5 procedures may not be used to get materials or products for any construction work of the type which requires authorization under Order L-41, unless the authorization specifically states that CMP Regulation No. 5 may be used.

A Statement
TO OUR CUSTOMERS FROM

WHEELER OSGOOD

For years we have been able to say—"prompt delivery, any amount of all types of doors." As America's largest door manufacturer we have always been able to make good on this statement. However, for the present it is impossible for us to fulfill this service to our jobbers and dealers. And here's why—now it's All Out for Victory

There is only one thing that matters—win the war as quickly as possible. We know that this is uppermost in your minds, too. The great bulk of our output of doors and kindred products is going into war housing and for other war purposes. That will be the situation with this company until the enemies of our country are defeated.

New Horizons After the War

Big things are already planned and developed for the post-war period. You well remember how Wheeler Osgood "Color Grading" revolutionized the door industry. After the war look again for Wheeler Osgood to be first to give you major improvements and sensational new developments. Until then we will do our best to fulfill your urgent needs.

WHEELER OSGOOD DOORS
WHEELER OSGOOD SALES CORPORATION
TACOMA, WASHINGTON

American Builder, September 1943

These points are brought out in Interpretation No. 9 to CMP Regulation No. 5, issued July 29, 1943.

Loss of Manpower Reduces Clay Product Production

Loss of manpower has been the chief cause of the shut down of some 200 clay products plants throughout the country, and the production capacity of the clay products industry has been reduced by about one-third, it was revealed at the meeting in Washington of the War Production Board's Structural Clay Products Industry Advisory Committee.

Inventories dropped from 920 million brick in September 1942 to 688 million brick in May 1943. Approximately 50 per cent of current inventory is frozen because of limited demand for specific sizes and types of clay products, though all of the inventory is usable.

Every effort should be made by the industry, Government officials said, to have their dealers and contractors stockpile material now for the post-war period. You well remember how Wheeler Osgood "Color Grading" revolutionized the door industry. After the war look again for Wheeler Osgood to be first to give you major improvements and sensational new developments. Until then we will do our best to fulfill your urgent needs.

WHEELER OSGOOD DOORS
WHEELER OSGOOD SALES CORPORATION
TACOMA, WASHINGTON

(Continued from page 72)

(Continued to page 76)
The Name

HOPE'S

1818

WINDOWS

1943

Guarantees

While they last, Steel Windows from our warehouse stacks are available without priority certificate.

RESIDENCE OF EMMET G. WOOD, BRIARCLIFF, N.Y.
POMERANCE AND BREINES, Architects, NEW YORK, N.Y.

WINDOWS for COMFORT and CONVENIENCE

HOPE'S WINDOWS fittingly frame the view from within the house and their correct proportions enhance the elevations from the outside. They provide maximum daylight, controlled ventilation, more efficient screens and storm sash, plus easier cleaning of the exterior glass...It is not too early to consider including Hope's Steel Windows in your post-war plans... Our prices will be low, markets will be nationwide, and builders and dealers will quickly be able to reconstruct a sound and lasting business.

HOPE'S WINDOWS, Inc., Jamestown, N.Y.
**YES and the WOMEN too!**

This is more than a mere man's war. The women, God bless 'em, are in it, too. Doing a grand job, winning honors for valiant service under fire as well as behind the lines.

Yes, and after the war the women will play a big part, they always have, in the home building boom. They know the importance of corrosion-resistant hot water tanks. They are familiar with the cleanliness of porcelain enamel on bath tubs, refrigerators, stoves and many household articles.

They will like Porcel-CLAD Hot Water Tanks with their gleaming, sanitary, corrosion-resistant, porcelain enameled surfaces. Yes, it is a better hot water tank, proved and approved.

**PORCELAIN STEELS, INC. • CLEVELAND, OHIO**

Porcel-CLAD Tanks comply with U. S. Bureau of Standards' Commercial Standard, TS-3488. Automatic water heaters, gas and electric, will be available with Porcel-CLAD Tanks.
NOW...CARRARA GLASS IN YOUR KITCHEN
FOR LESS THAN $12.

THIS colorful splash-panel of Carrara Structural Glass for use back of the stove brings to any kitchen advantages out of all proportion to its cost. It protects the wall behind the stove from discoloration and scorching. It is absolutely impervious to grease, grime, dirt. It is easily cleaned with a damp cloth. It won't absorb cooking odors. And it combines with its practical usefulness a smart, attractive appearance which adds greatly to the looks of the room.

The installation is so simple that this splash-panel can be installed by any of your mechanics. Ready-built at the factory, with the glass mounted on plasterboard, it arrives on the job ready to be nailed quickly and easily to the studding. When the wall is plastered, the plaster finishes flush with the face of the glass.

You will find this Ready-Built Carrara Splash-Panel, in any of 9 appealing colors, ideal for use in all kinds of homes, including war housing units where low cost is a factor of great importance. We urge you to send the coupon at once for complete information.

Pittsburgh Plate Glass Company
2076-3 Grant Building, Pittsburgh, Pa.
Please send me, without obligation, your free literature on Ready-Built Carrara Glass.

Name _____________________________
Address __________________________
City ___________________________ State ________
Timber Construction FOR INDUSTRIAL PLANTS COMES BACK!


WITH steel production now absorbed in the manufacture of vital fighting material, engineers and builders have switched to lumber and timbers for factory, plant and other heavy construction.

They are on solid ground in doing so, because heavy timber construction has proved dependable and lasting in textile mills, factories, shipyards, warehouses, canneries, etc., over life-spans of 75 years and more.

Timber construction is flexible, rapid, adapted to on-site saving prefabrication. Over-all building costs are in line. With Tecno Ring Connectors, load bear-ings and joints compare in strength with those of steel. Under modern chemical treatments, timbers are effectively resistant to deterioration and fire. Even untreated timbers are slow burning, do not buckle.

Today's timber construction projects include ordnance plants, munitions factories, recreation centers, hangars, theatres, warehouses, machine shops, etc., with countless more on drafting boards. Heavy timber construction has come back!

Arkansas Soft Pine is supplying a substantial volume of lumber and timbers to these war projects. This species qualifies for all structural requirements under Federal Specifications M M-L-751b and offers a sustained source of standardized heavy construction material and framing lumber. For technical data, specifications and complete information, all without charge, address:

ARKANSAS SOFT PINE BUREAU 986 BOYLE BUILDING LITTLE ROCK, ARKANSAS

American Builder, September 1943.

Builder Associations Merge (Continued from page 41)

Thomas McLlvain, publicity director of the Greater Cincinnati Home Builders Association, Cincinnati, Ohio.

The Board will be further increased by the following:

George G. Barlow, secretary, Better Builders Association of Onondaga, Syracuse, N. Y.


Harry J. Durbin, director, Builders Association of Metropolitan Detroit, Detroit, Mich., and past president of NHBA.

E. B. Haverstick, president, Montgomery County Builders Association, Dayton, Ohio.

George T. Johnson, president, Better Builders Association of Onondaga, Syracuse, N. Y.

A. C. Petersen, president, Builders Association of Metropolitan Detroit, Detroit, Mich.

Leland T. Flanz, president, Rochester Home Builders Association, Rochester, N. Y.

E. L. Lieberman, executive vice president, Builders Association of Metropolitan Detroit, Detroit, Mich.


A. N. Young, director, Allegheny County Home Builders Association, Pittsburgh, Pa.

William E. Coe, treasurer, Builders Association of Metropolitan Detroit, Detroit, Mich.

Stating that FHA had helped more than 500,000 families to become home owners, the Seattle builders asked for 25-year loans, 10% down payment on houses up to $10,000, tenure option plan under $6,000 with 30 months to acquire equity.

BE IT RESOLVED: That the agencies and bureaus which have been created or which have received additional authority by reason of war housing emergency regulations which have restricted the normal course of construction be curtailed and eliminated or converted to post-war service. The Board of Directors urges that the agencies, bureaus and restrictions affecting housing and construction be completely eliminated.

W. T. Conran, chairman of the Seattle Master Builders post-war committee, told American Builder: "The statement has been made that the insuring of loans by the Government through FHA is depression financing because of the fact that it was born in 1934. We disagree with this theory. "If FHA met with such instantaneous success in depression years, when money and jobs were scarce within the average earning group, why will FHA not be more successful when money is expected to be plentiful in that same group?"

"Our major purpose will be to create jobs. Through FHA the individual builder, throughout the country, representing small businesses—which after all is the backbone of our country—were permitted immediately to finance and build homes at reasonable cost and under FHA procedures and terms of down payments and very attractive interest rates."

"The major purpose behind this resolution is to enable the rank and file of home builders throughout the nation to immediately pick up from where they left off. They are promptly ready to build with FHA procedure and it will be unnecessary for them to learn any new panes of financing. If the Government does not have sufficient demand for home building, we expect the Federal Housing Authority to reduce their costs to a minimum and the people will be compelled to pay for a long time. Why burden our Government—which is all of us—with taxes created by further subsidies, federal grants, etc., our necessary public obligations."

"It is our sincere desire that similar action to that taken by our organization will be taken by other groups, and if needed, we will be glad to send additional copies of the resolution for distribution."
Another Problem Solved!

Grand Rapids Hardware Offers an Engineering Service for Your Prefabricating Plant

If you are losing any time on the installation of window assemblies and window sash operative hardware in line production of double hung windows—first, consider the Grand Rapids Invisible Sash Balance because it may be just what you are looking for. Second, consider the competent engineering service that is being offered you to assure speedy, dependable and economical installation of the Grand Rapids Invisible. This engineering service has been set up for the especial purpose of breaking bottlenecks in sash balance installation in line production. The trained services of one of our representatives is yours for the asking, until your particular problem has been solved. Not only will the information gained be profitable in your war housing projects, but will prove invaluable in the post-war building construction era. Your inquiry is invited.

1. Simplified top fastener. Easy to install. Permanent rigidity with one screw. Eliminates play and assures smooth, quick operation.

2. "Spring-Flex" Bearing Arm adjusts automatically to different degrees of sash fit. Practically eliminates wood clatter. Always smooth, quiet, snug.


What to do about the fireplace in the small, tightly constructed home of the future?
The exhaustion of air from the living quarters tends either (1) to create a partial vacuum, and therefore back drafts and smoke, or (2), infiltration and therefore annoying cold drafts, cold floors, uneven temperatures and interference with automatic heat controls.

By admitting outdoor air through heating ducts, the Bennett Fresh Air Unit overcomes these difficulties and definitely increases the comfort and pleasure to be derived from the fireplace.

When Victory again enables us to produce fireplace units and construction supplies, you'll find BENNETT ready to offer you many advantages.

BENNETT FIREPLACE CO.
NORWICH, N. Y.

BENNETT Guaranteed FIREPLACES


American Builder, September 1943.
ABOLISH Wearisome
HAND SANDING!

CHECK THESE FEATURES . . . .
- More powerful motor
- Silent chain drive
- Perfect balance
- Instant belt change
- Dust-free operation
- Ball bearings throughout

Six exclusive features have made TAKE-ABOUT the world's most popular portable belt sander. It's a big help for quick, uniform surfacing—for leveling joints—for fitting jobs—for removing paint—for touching up and cleaning wood trim and plywood panels—for finishing cabinet work—and a host of other tasks that give your work a craftsman's finish. TAKE-ABOUT is one of the most profitable tool investments you can make.

Speedmatics
Do your sawing the time-saving, effort-saving way, too. SPEEDMATIC's scientific design makes for perfect balance, eliminating arm strains and cramped muscles. The higher efficiency of the helical gear gives you power to spare. The blade enters the cut at 7,000 revolutions per minute—so fast it practically feeds itself. No overloading—no stalling.

PORTER-CABLE
MACHINE CO.
1721-9 N. Salina St., Syracuse, N.Y.
Materials for War Jobs

portable electric drill or drill press, or may be used in a hand-operated brace and bit. A different type of cutting head, with inside blades, is furnished to countersink bearing plates of the same diameter as the connector rings.

The advantages of ring-connector joining in timber construction have been known for some time; this power-driven cutting tool has eliminated much of the tedious hand labor formerly required, and has speeded up this type of construction.

New Continuous Feed Concrete Gun

The Construction Machinery Co., Waterloo, Iowa, has developed an open hopper pneumatic gun for placing concrete. It operates at high velocity, through a special 1½-inch hose line with capacity up to 5 cu. yds. of material per hour.

Protection for Masonry Surfaces

A NEW protective coating material for masonry surfaces, such as concrete, stucco and brick, which contains no critical material, is “Waterfoil” now being produced by A.C. Horn Co., 43-46 Tenth St., Long Island City 1, N.Y.

Waterfoil is a decorative water resistant treatment for exterior masonry surfaces, one coat having the equivalent thickness of three or four coats of average paint. It comes in five basic colors.

In these wartime days, as in the days of peace, the Western Pine Association Research Laboratory is constantly experimenting to determine new values, new uses, and to improve manufacturing procedures for the Western Pines.

Here’s where we count growth

Many tests made to further improve the fine service records of Idaho White Pine, Ponderosa Pine, and Sugar Pine, include microscopic study of their characteristics. For example—the technician in the illustration is counting precisely the rate of growth in “rings per inch” at the Association’s Research Laboratory.

WESTERN PINE ASSOCIATION

Yeon Building, Portland (4) Oregon

*Idaho White Pine  *Ponderosa Pine  *Sugar Pine

*These are the Western Pines
TODAY and TOMORROW

Today Victory Housing is sheltering our fighters in many far corners of the world as well as at home, while war workers, institutions and various industries are finding them invaluable for comfortable, economical, sound housing.

Tomorrow, when housing will be one of the greatest industrial pace-makers of peace, "Texas Pre-Fab" is preparing to offer to the millions who will need good, new housing, a product that will combine the utmost in quality with economy unheard of in housing.

The comfort in all weather of the tenants is a prime factor in "Texas Pre-Fab" planning—for example, the insulated Air-Space roof of today's Victory Housing which helps insure coolness in summer and ready warmth in winter.

Long life of the house, economy in operation, complete demountability and portability with no sacrifice in sturdiness—these too are features of "Texas Pre-Fab" Homes. Our two plants at Dallas, comprising 60 acres with storage areas, are prepared to turn out more than 500 units a day.

DEALERS AND DISTRIBUTORS: In planning for tomorrow, as well as for today where Government regulations can be met by the purchaser, "Texas Pre-Fab" desires to discuss distribution with progressive dealers and distributors. You are invited to write us for full information.

TODAY and TOMORROW

Prepare Homes for Cold Winter Days

First, the Federal Reserve Bank Board has removed credit restrictions of Regulation W to allow 36 months' credit extension with no down payment to cover the cost of fuel conservation measures regardless of the size of the building.

Second, the Federal Housing Administration allows until November 1, for the first payment on insulation jobs begun under the summer plan. In cases where heat-sealing improvements will provide additional quarters for war workers, the credit period may extend up to seven years.

Third, local rent control offices are empowered to make rental adjustments satisfactory to both landlord and tenant for capital improvements.

Fourth, the War Production Board has exempted insulation from the $200 limit of conservation order L-41.

Fifth, conservation Division of WPB has prepared an authoritative treatise on ways and means of conserving fuel, including notes on the insulation of walls and ceilings. This booklet is for distribution to government agencies concerned with the national drive to conserve all home and supplies and services.

Sixth, the War Manpower Commission, in an effort to facilitate the installation of winter conditioning devices has declared that such activities are essential.

Seventh, the Office of Price Administration through its fuel oil rationing boards allows a larger amount of fuel oil as a basic ration to those whose records have been economical. Similar consideration can be expected by householders who have been economical in the use of coal and gas, if rationing becomes necessary on these fuels.

Eighth, the Office of Defense Transportation has placed the installation of insulation material for fuel conservation in Class A-2 for gasoline rationing. With the preferred rationing truck and blowing equipment used in insulation installation are not curtailed by the 40% gas reduction in the East.

To aid you to tie-in with the national campaign posters, theWar Campaigns Committee, 151 West 34th Street, New York N.Y.

Either from your local newspaper, or from OWI, advertising maps, can be obtained. Direct mail folders are being made available by OWI to insulation contractors through dealers and banks. These can be obtained at low cost.

Nine Major Points

Nine major points are embraced in the winterproof-your-home campaign. They are:

One, heat-seal attic floor or roof.

Two, heat-seal walls whenever practicable.

Three, weatherstrip all windows and doors.

Four, caulk cracks.

Five, equip homes with storm windows and doors.

Six, equip homes with winter vestibules.

Seven, heat-seal walls and doors leading to unused or rarely used parts of the house.

Eight, heat-seal the ceilings of unheated basements and cellars.

Nine, heat-seal parts of home's heating equipment.

Attic Floor or Roof

By applying insulating materials to attic floor or roof, it is estimated that in a climate such as New York's, 336 to 557 pounds of coal can be saved for every 100 sq.ft. of heat-sealed attic floor or roof. Open attic floors or roof areas can be treated with many types of material, including mineral wools, either in granule or batt form. Granulated cork, chemically treated, loose fibre material in blanket form. Dry fills, such as Gypsum, and vermiculite, and structural insulation board in sheet form.

The type of material selected depends on prevailing construction conditions and what has to be done. For example, insulating board can be used as a fuel saver in the conversion of attics into finished rooms, while batts, or bags of dry fill, could be used in a room that was not to be finished.

Before insulating the attic floor the roof should be carefully checked for loose shingles or slates. Defective roofs should be repaired.

(Continued to page 84)
BIG homes are obsolete. But there's a famine in little ones. So get acquainted with Parsons Pureaire Kitchen. For there's nothing like it to ease the task of making many little homes out of one big one.

Set this complete, odorless, one-piece steel kitchen into the wall anywhere and one or two rooms promptly become a real home.

Put Pureaire into your plans for post-war building—remodeling, apartments, small separate dwellings. But remember, none for sale until Victory.

TRVERSE BAY MFG. CO.
(Affiliated with The Parsons Co.)
15000 Oakland • • Detroit, Mich.

PARSONS KITCHENS

"We're cutting a Mortise a Minute with the Carter Lock Mortiser
...that's how we get doors hung on schedule on the big jobs!"

There's not much time allowed for completing the big war housing and building contracts. That's why smart builders use the Carter Lock Mortiser. It does a cleaner, better job than hand mortising, and does it 10 times as fast.

It's the lightest, easiest-to-handle mortiser made. Adjustment is simple, for any mortise up to 51/4" long, 41/3" deep. It feeds automatically to the desired depth. With the grinding pencil furnished, it sharpens its own cutters. The 1 H.P. motor drives it 18,000 R.P.M.

The Carter Lock Mortiser will pay for itself easily on one medium sized contract, and go on saving, year after year. It is completely described in the Carter catalog. Write for a copy.

R. L. CARTER DIV., The Stanley Works
New Britain, Connecticut

CARTER TIME-SAVING TOOLS
Calcium Chloride
SLOW-UP

* Chilling Fall temperatures from 50° to 32° seriously affect both the development of concrete. SOLVAY Calcium Chloride serves largely, if not entirely, to offset the slowing-up effects of temperature drops and provides extra cold weather protection.

Use SOLVAY Calcium Chloride to increase early and final strength of concrete. It will not change the normal chemical action of Portland cement. It is low in cost.

End
50°
Slow-Up*

in
Fall Concrete
with
Solvay
Calcium Chloride

* Chilling Fall temperatures from 50° to 32° seriously affect both the development of strength and the ultimate quality of concrete. SOLVAY Calcium Chloride serves largely, if not entirely, to offset the slowing-up effects of temperature drops and provides extra cold weather protection.

Use SOLVAY Calcium Chloride to increase early and final strength of concrete. It will not change the normal chemical action of Portland cement. It is low in cost.

Send for complete information.
Write to Dept. 34-9
SOLVAY SALES CORPORATION
40 Rector Street
New York 6, N.Y.
American Builder, September 1943.

43. American Builder, September 1943. 8

eaters in every community. All should be carefully checked and heat-sealed wherever practical. The nation's 255,000 churches present a special heating problem because they are normally heated intermittently. If they are heat-sealed, less fuel will be needed to bring the building up to the required temperature.

Churches with high ceilings and a single roof should be surveyed for possible heat-sealing. All large windows should be carefully checked to see that panes and casements fit tightly.

Winter vestibules or storm doors should be added wherever practical. In the home a temporary storm door can be made by attaching panels of insulating board to full size screen doors which will convert them into emergency storm doors for the duration.

National Brass Appoints Sales Manager

The National Brass Co., Grand Rapids, Mich., has announced the appointment of Gilbert Gould as sales manager. Mr. Gould assumes these duties with a background of 21 years with the company. He started in 1922 as an assembler and there, while putting them together, received his first experience with Tubular Locks and Latches. Later, as a salesman, he traveled the states of Iowa, Minnesota, Wisconsin, Illinois, as well as part of Michigan and then returned to the home office, taking over the duties of assistant sales manager. In his new capacity, he has direct charge of sales, merchandising and marketing operations of the National Brass Company.

GILBERT GOULD

Do you know your regular SKILSAW will do grooving in a single operation? Just replace the regular blade with this GROOVING BLADE (illustrated at left) and you're ready at once to groove for stairs, shelves, and weather stripping ... to slot floors for sliding doors ... to speed up rabbing, mortising and many other jobs.

It's wise right now to learn about all the different jobs you can do with SKILSAW. That's how you'll learn to cut costs on more operations ... to save more time ... to get yourself bigger, more profitable contracts in the days to come. Ask your distributor for a demonstration NOW!

SKILSAW speeds all grooving, rabbing, mortising.

CHENEY METAL PRODUCTS CO., Trenton 5, New Jersey

DESIRABLE TERRITORY OPEN TO QUALIFIED DISTRIBUTORS

CHENEY METAL PRODUCTS CO., Trenton 5, New Jersey

CHENEY METAL PRODUCTS CO., Trenton 5, New Jersey
Douglas Fir Plywood

INVASION BARGES made for United Nations!

- Add invasion barges to the long list of war jobs Douglas Fir Plywood is doing. This sturdy, lightweight engineered lumber is being used for transportation equipment of all kinds, for military and war worker housing, for factory construction and scores of other purposes. Because of this wide and varied experience, you're sure to find Douglas Fir Plywood one of your most useful post-war construction materials.

Here's another type of plywood barge — officially known as a lighter — built by Higgins Industries, Inc., of New Orleans. Sides and decks of these 18 x 64 foot barges are covered with 2 layers of 1/4-inch Exterior-type Douglas Fir Plywood. This Miracle Wood adds rigidity, is quickly applied and easily repaired if damaged.

TO HELP SPEED VICTORY the Douglas Fir Plywood Industry is devoting its entire capacity to war production. We know this program has your approval.

SEND FOR FREE WAR USE FOLDER
Scores of actual photographs show plywood's busy war career. Write Douglas Fir Plywood Association, Tacoma Bldg., Tacoma, Washington, for YOUR copy.

Victory Wiring Layout Saves Copper—
(Continued from page 60)

Consideration to the possibility of locating another one directly behind it later when the materials are available, thus holding the expense of possible wiring alterations after the war to a minimum. This is an important consideration from the standpoint of FHA, which is interested in protecting the resale value of the house. It is equally an essential principle of all engineered wiring, which attempts to anticipate the coming Electrical Age.

Plans for a typical five-room defense home, with an engineered Victory layout are shown on page 60. There is also a table compiled by the Electrical Association of Detroit showing the comparative saving of materials of this house over one conventionally wired.

In this typical plan, the service wires enter the building in the basement in the conventional manner, terminating inside the wall at a main switch or cutout. From here the engineered scheme differs from the conventional. From the cutout, three No. 8 service entrance wires run up to the range receptacle, which serves either a present or future electric range. It is said to be actually cheaper to wire a house with this range outlet. Feeding out from the range receptacle are three No. 10 wires which feed a four-circuit fuse panel placed not more than five feet above the range receptacle.

Circuit A is for the laundry, Circuit B includes refrigerator convenience outlets on the kitchen counter and dinette wall. In all cases the shortest and most direct runs of wire are used—overhead, under floors or through walls; and a large part of the copper saving is effected in this manner.

Circuit C includes living room convenience outlets, vestibule and porch lights, hall, bathroom, one bedroom and basement light. Circuit D feeds the dinette ceiling fixture, sink light, rear entrance hall light, and bedroom ceiling, convenience outlets, rear basement ceiling outlet and furnace ceiling light. Future outlets are planned in the two bedroom closets so that they may be easily tapped into the circuit feeding the small bedroom ceiling outlets.

Unusual Opportunity for a Builder of Homes

Sarasota, Florida, located on the Gulf of Mexico in the popular Tampa Bay area, is one of the five fastest-growing communities in the Sunshine State. Its population of 11,500 is made up of an exceptionally fine type of citizenship with a high per capita wealth and income. A leading resort center surrounded by rich back country, Sarasota has outgrown its present housing facilities, and after the war will need a great many new homes to meet the local and winter resident demand.

We own and offer for sale sixty-one acres of raw, undeveloped, unsubdivided land right in the heart of Sarasota, only four blocks from the Court House. Paved avenues surround the property. All public utilities are immediately available. This property is ripe for a housing program.

We want to contact a builder who would be interested in buying this property for a home building project after the war. For the right man or company we can offer a most attractive proposition. Please write or wire for full information.

P. & L. Properties, Inc.
232 Main Street
SARASOTA, FLORIDA

American Builder, September 1943.

American Builder, November 1942:
In a series of Victor Wiring Layouts, Mrs. Julia V. Minton, FHA consultant, gives the following suggestions:
(1) Consider the utility of a three-box system of wiring instead of a two-box system
(2) Use no. 12 wires between the service box and individual room boxes
(3) Use no. 10 wire between the individual room boxes and the main service box
(4) In the main service box, make the service entrance wires as small as possible to save copper
(5) Where possible, use the new, high-tension, insulated 120 volt tubing
(6) Where possible, use 12 volt tubing
(7) Where possible, use 12 volt electric range outlets
(8) Where possible, use 12 volt electric water heaters
(9) Where possible, use 12 volt electric clothes dryers

Sarasota, Florida, located on the Gulf of Mexico in the popular Tampa Bay area, is one of the five fastest-growing communities in the Sunshine State. Its population of 11,500 is made up of an exceptionally fine type of citizenship with a high per capita wealth and income. A leading resort center surrounded by rich back country, Sarasota has outgrown its present housing facilities, and after the war will need a great many new homes to meet the local and winter resident demand.

We own and offer for sale sixty-one acres of raw, undeveloped, unsubdivided land right in the heart of Sarasota, only four blocks from the Court House. Paved avenues surround the property. All public utilities are immediately available. This property is ripe for a housing program.

We want to contact a builder who would be interested in buying this property for a home building project after the war. For the right man or company we can offer a most attractive proposition. Please write or wire for full information.

P. & L. Properties, Inc.
232 Main Street
SARASOTA, FLORIDA
This plan, it should be pointed out, was originally drawn up to conform with the WPB Critical Materials List of Feb. 24, 1942; and was adapted to the new critical list of December, 1942.

In addition to planned economy in the use of copper wire, the Victory Wiring method embraces these additional principles for conservation of critical materials:

1. Use no conduit or steel tubing except in those types of construction where its use is necessary.
2. Use no steel outlet boxes where porcelain or composition boxes will serve.
3. Use non-metallic sheathed cable of the covered neutral type of assembly.
4. Where armored cable is required for some special reason, use the bare neutral type.
5. Where construction requires raceways, use a bare neutral conductor and thin-wall insulation on insulated conductors.
6. Where raceways are required, use electrical metallic tubing (thin-wall conduit) in preference to rigid steel conduit wherever practical.
7. Use the neutral conductor as a grounding conductor throughout the wiring system.
8. Use multi-wire branch circuits, with a common neutral wherever possible.
9. Make use of thin-wall insulating mediums for cable assemblies.

Sonneborn Names New Advertising Manager

SONNEBORN Sons, Inc., New York, oil refiners and manufacturing chemists, has appointed J. F. Koellisch, former advertising agency account executive and trade journal editor, as its advertising and sales promotion manager. The Corporation and its subsidiaries, which manufacture paints, waterproofing and floor treatment specialties and other products, are currently serving many war industries as well as essential civilian requirements.

Bilt-Well Nu-Style Kitchen Cabinets will help you provide compact, modern kitchens for homeowners. They will simplify the problems of arrangement and installation for the architect and contractor. They provide the maximum in convenience and beauty—something every homeowner will be expecting in the post-war era.

Decide now on Bilt-Well Nu-Style Cabinets for the Kitchens of Tomorrow. Start today. Write us for information on standard sizes.
War Construction Still Needs Concrete Men

Expediting the war effort is still the first duty of concrete contractors and concrete products manufacturers.

Needs for war housing and war plant improvements are not yet satisfied. Facilities for preserving and storing war foods are as urgently needed as ever. Farmers still need concrete improvements such as feeding floors, paved barn yards, and sanitary milk houses, which save labor and increase farm production.

- Concrete construction for any of these vital purposes requires minimum use of scarce materials. Transportation is saved because the bulk of concrete materials is usually available within short hauling distance of any project.

Assistance of our concrete specialists is available to help solve problems relating to essential concrete construction now or in Pre-V-Day planning for postwar concrete projects.

PORTLAND CEMENT ASSOCIATION
Dept. A9-3, 33 W. Grand Ave., Chicago 10, Ill.

A national organization to improve and extend the uses of concrete... through scientific research and engineering field work

BUY MORE WAR BONDS
TO-DO-IT INFORMATION

out five advantages resulting from glazing sash with this product—easy-working, quick initial set, sufficient service set for handling, elasticity, keeps its life.
—The Armstrong Co., 241 S. Post Ave., Detroit.

94—FABRICATED PIPING—An elaborate catalog, of 64 pages and covers, profusely illustrated, has been issued by the Flori Pipe Co.; it covers the various ways in which piping can be used, and lists present market prices for every conceivable kind and size of fabricated piping. It will be useful for handy reference.—Flori Pipe Co., St. Louis, Mo.

95—HOW TO CONSERVE FUEL—Suggestions for home winterizing and fuel conservation campaigns for the use of contractors, fuel dealers, insulation firms, have just been prepared and released by the Graphic Arts Victory Committee, with the co-operation of the Office of War Information. The objectives of these campaigns are to induce home owners to prepare their homes for winter weather, and also to save fuel consumption. Contractors and fuel dealers who want to inform their customers about need to make preparations now, as part of the war effort, should see their local printers who can get the material from—Graphic Arts Victory Committee, 17 E. 42nd St., New York 17, N.Y.

96—RESIN GLUE—One of the outstanding wartime glue developments is Cascophen LT-67, a product combining many of the most desirable properties of phenol-resin, urea-resin and casein glues. It is fully described in Technical Bulletin No. 104a, issued by the Casein Co. of America, and giving complete technical data such as storage life, mixing, spreading, maturing periods, bag-gluing properties, etc.—Casein Co. of America, Technical Service Div., 350 Madison Ave., New York.

97—HOSH TO INSULATE—“Kimsul Insulation, the Modern Protection against Heat and Cold” is the title of a small booklet recently issued by Kimberly-Clark Corp. How Kimsul may be used as a heat stop in summer and.can stop heat loss in winter, and how it serves the war front and the home front, are explained.—KIMBERLY-CLARK CORP., Neenah, Wis.

98—ZINC IN WAR—This is the latest in a series of folders showing how zinc is used in war; this one describes and illustrates where and how zinc products serve the war effort after leaving the plants.—The New Jersey Zinc Co., 160 Front St., New York 7, N.Y.
No danger of Shock
with Type AC

No danger of Shock
with Type AC

SAFE SERVICE EQUIPMENT

Safety and modern protection are built into each Load Center, Service Equipment and Panelboard. All current carrying parts are covered. Needless circuit interruptions are prevented when momentary, harmless overloads occur—but the circuit breakers "trip" on short circuit or harmful overload. Requiring no fuses, the circuit breakers are operated manually, like an ordinary toggle switch. Simply return the handle to the "on" position after the cause of the short circuit has been removed.

Capacities: 15, 20, 25, 35 and 50 amperes, for 120 volt AC service. Fully approved by Underwriters' Laboratories, Inc.

Write for Bulletins 63 and 67 describing and illustrating the line—including wiring diagrams and suggested specifications.

Frank Adam Electric Company, Box 357, St. Louis, Mo.

NOW YOU ARE FREE TO
Weatherstrip!
U.S. GOVERNMENT RELEASES ZINC FOR WEATHERSTRIPPING

To meet war necessity for even greater conservation of fuel this coming winter the War Production Board has made Zinc available for manufacturing weatherstrip for homes and apartments.

Here is Profitable Work for Every Contractor, Builder and Carpenter

Two million homes with gaping doors and loose windows that must be weatherstripped before winter—for fuel conservation—for civilian health and comfort—all essential to winning the war. You know these homes in your community. Every one is a prospect. Fuel saving pays the homeowner's cost.

ALLMETAL Weatherstrip for Double Hang Windows, casements and doors is furnished cut to size and ready to install. Simply send the number, kind and dimensions of openings. No priorities now required.

Take Advantage of this Opportunity Now!

ALLMETAL WEATHERSTRIP CO.
231 W. OHIO STREET • CHICAGO 10, U.S.A.

Send Coupon
TODAY
for catalog and prices

SIX rooms, one and a half baths, double garage and connecting porch are features of this compact design.

Texans Break All Prefab Records
(Continued from page 42)

hot climates. It could be bolted together or taken apart in a hurry. It was flexible in that a number of the units could be attached to form as large a structure as desired.

The experience gained in the use of tens of thousands of these units in all parts has more recently been applied to
The Victory home is illustrated and detailed with this article. Morten believes that this structure will form the basis for a large post-war business.

The basic unit is only 15' 10" square, yet it has complete living facilities for a family of two or three. A model village of these houses has been in use for several years to test their living qualities.

The significant feature of the Texas Pre-Fab house is, therefore, its demountability; it can be sold on very favorable terms. With no security other than the house itself. If the payments are not met, the seller can send out a crew of men, demount it, load it on a truck and bring it back.

Such a house could be sold with little or no down payments and such low monthly installments that it could service the very lowest income buyers.

The Texas prefab units are made of exterior grade fir plywood in which a special Lauxite synthetic resin glue was employed as a laminating agent. All of the plywood and wood members are also treated with Laucks toxic water-repellent wood preservative.

Units built for the south have a ventilated roof feature achieved by using two layers of plywood with air space between. As the sun shines on the roof it heats the air and causes it to flow upward and out through the metal ridge ventilator. This constant flow of air has a cooling effect on the interior, it is claimed.

The units have been built for both southern and northern use. The northern type are heavily insulated and equipped with storm windows. For the extreme south, units are equipped with plywood window flaps that serve as awnings.

The basic Victory home unit consists of two floor sections, four wall sections, four roof sections, a metal roof with a natal type collar and four metal ridges which cover the joints where the roof sections meet, together with foundation blocks, partitions, bolts, screws, and hardware necessary to erect the house. Specifications include:

FLOOR—Sills, 2" x 6" No. 2 Yellow Pine; joists, 2" x 4" No. 2 Yellow Pine at 2' 4" c.c.; floor, 1% x 4" or 1" x 6" C. M. No. 2 Grade or better Yellow Pine.

EXTERIOR WALLS—1/4" exterior grade plywood SIS, or adequate substitute.

STUDS—2" x 2" No. 2 Yellow Pine at 24" c.c.

WINDOW FLAPS—1/4" exterior grade plywood set in 3/4" x 3/4" white pine framing hung by three hinge batts, and controlled by two folding bracket ears each. Secured in place when closed by two cabinet buttons. Glass used optional at slightly higher cost.

DOOR—2 3/4" x 6 1/2" x 1 3/8" five-panel fir stock door, hung on three spring hinges, with a door pull on the outside.

ROOF—Hipped type roof, pitch 45-1/2°. EXTERIOR ROOF SURFACE—1/4" exterior grade plywood—SIS, or adequate substitute. INTERIOR ROOF SURFACE—1/16" exterior grade plywood—SIS, or adequate substitute.

ROOF VENTILATOR—28-Gauge galvanized iron, constructed so as to permit the flow of air from the attic space to the outside, and the flow of air from the inside of the building to the outside. The peak of the ventilator is constructed so as to receive a 4" stove pipe. Mosquito protection to be made of galvanized screen.

PAINT—Exterior and interior given one undercoat of sealing paint in a choice of colors. Color or color combinations are at the option of purchasers.

VENTILATORS—Prefabricated corner ductine table, chest of drawers, clothes closet, built-in sink cabinet, bathroom cabinet, clothes rack, are optional at slight additional cost.

EXTRA WEIGHT—With partitions—approximately 3,000 pounds; without partitions—2,700 pounds.

ERECTING—Can be erected by two men in a matter of hours. A crew of six men can erect in one hour.

SPECIALS: Transit-Level No. 38-b 

$160.00

MALL TOOL COMPANY

7737 South Chicago Ave., Chicago 19, Illinois

In a few short years, more than 33,000 Kitchen Maid kitchens have been sold for housing projects of practically all types—everywhere. This exceptional experience in advanced cabinetry design and low cost composite construction should be of great value to you on any war housing job. It's yours for the asking. Just write The Kitchen Maid Corp., 539 Snowden Street, Andrews, Indiana.

SAVE TIME in making layouts and in giving lines and grades
SAVE MONEY by reducing labor costs by using a WARREN-KNIGHT TRANSIT-LEVEL

This instrument gives you what you have always wanted in a low priced instrument—high accuracy—lightweight—fast—easily portable. It is as useful in laying out conventional problems with its compass and tangent—separate level—compass—plane—protractor—v-relief reading—extra large slide—sturdy construction—low prices.

For complete details write for new Catalogue P 89. Limited supplies for your old instrument. Prompt delivery on priority orders.

WARREN-KNIGHT CO.

136 N. 12th St.

PHILADELPHIA 7, PA.
make the most of Available manpower

with the
WALKER-TURNER
RADIAL SAW

One operator with this machine turns out more work than several without it—and with much greater accuracy. It crosscuts, rips, dadoes, shapes, routs and tenons—on wood, plastics, metals, ceramics and other materials. The Walker-Turner Radial Saw's patented geared, shock-proof motor permits deep cuts with smaller blades; its sliding ram design eliminates overhanging arm, affords clear view of work. Many other features and ample safeguards. Prompt delivery for war work. Get literature. WALKER-TURNER CO., Inc., 1082 Bergen St., Plainfield, N.J.

Develop Low Cost Fireproof Construction (Continued from page 51)

shooting in six hours with a four-man crew. The concrete shooting for this same unit could be done with a four-man crew in six to eight hours.

This system is not prefabrication, but simply the manufacture of a series of 18½" modules that can be used on any plan, and, of course, when completed, there is no evidence of prefabrication. The pan forms have been shown in steel, but could be made from asbestos cement, plywood, insulation board, pressed wood, or any type of new material that is cheap and strong.

It is estimated that a sheet metal plant with proper equipment to stamp out these pans could produce and sell them to the trade, through their dealer organization at six cents per square foot, profitably. This as a basis would make complete erected costs per square foot approximately as follows:

Cost Per Square Foot of Walls or Floors

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost Per Sq. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan assembly, per square foot</td>
<td>$0.06</td>
</tr>
<tr>
<td>Pan erection per square foot</td>
<td>$0.02</td>
</tr>
<tr>
<td>Rods and exterior mesh erected</td>
<td>$0.04</td>
</tr>
<tr>
<td>Exterior concrete placed with a gun, per square foot</td>
<td>$0.10</td>
</tr>
<tr>
<td>Flashed with white cement and sand ¾&quot; thick</td>
<td>$0.03</td>
</tr>
<tr>
<td>Interior furring studs and paper backed mesh erected</td>
<td>$0.06</td>
</tr>
<tr>
<td>Interior concrete or plater shooting and finishing</td>
<td>¾&quot; thick</td>
</tr>
<tr>
<td>Blown insulation in hollow space</td>
<td>$0.06</td>
</tr>
<tr>
<td>Contractor's profit</td>
<td>$0.43</td>
</tr>
<tr>
<td>Complete cost per square foot</td>
<td>$0.47</td>
</tr>
</tbody>
</table>

PD-105 List of Material as Requested for Lewis' Fair Elms Duplexes (Continued from page 40)

<table>
<thead>
<tr>
<th>Quantities Requested</th>
<th>Water closets</th>
<th>Sinks</th>
<th>Nonmetallic laundry trays</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no. 50</td>
<td>no. 50</td>
<td>no. 50</td>
</tr>
</tbody>
</table>

430 SANITARY DRAINAGE SYSTEM:

431 Soil pipe, fittings, cleanouts, plugs.

432 Screw pipe and fittings

434 Caulking lead

435 Flashing

436 Hangers, supports and miscellaneous

Through all Masonry Walls

For Waterproofing & Decorating Entire Walls

Use FLUROSEAL if walls are of Cement or Cinder Block. Use TRICOREAL if walls are of Painted Concrete Brick, Stone or Stucco.

Use LAPIEDINON for waterproofing exterior Brick Walls, Mortar Joints, Chimneys, (Colorless) Free Folder Shows How to Solve Your Problem

Sold by Paint, Hardware & Building Supply Dealers THE AMERICAN FLURESIT CO.
639 ROCKDALE AVE., CINCINNATI, O.
440 WATER SUPPLY:
441 Water supply pipe:
  Ferrous metal lb. 4,000
  Lead lb. 1,200
442 Water supply pipe fittings:
  For ferrous metal pipe lb. 1,250
443 Valves: 1½" and smaller no. 200
444 Hangers, supports and miscellaneous iron lb. 250

450 DOMESTIC HOT WATER HEATERS AND STORAGE TANKS:
454 Direct fired water jacket type with storage tank no. 50

460 CONTROL EQUIPMENT FOR DOMESTIC HOT WATER HEATING:
4621 Safety valves no. 50
4623 Gas shut-off valves no. 50

480 GAS DISTRIBUTION:
481 Pipe, hangers, supports and fastenings lb. 3,000

500 HEATING:
511 Maximum net hourly output capacity:
  Per heating unit or system in Btu. 46,376
  Per square foot of dwelling area in Btu. 66
  Per dwelling unit in Btu. 46,376
512 Total hourly heat loss of dwelling area in Btu. 43,000
513 Dwelling area in s.f. 800
  Number of dwelling units in dwelling area 1

530 WARM AIR DISTRIBUTION SYSTEMS:
531 Furnaces
  18" Gravity warm air x Coal
    Output capacity Btu. 46,376 50
532 Distribution materials:
  5321 Ducts, connections, fittings, hangers, and fastenings:
  Ducts, connections and fittings:
    (a) Ferrous sheet metal, untreated or phosphate treated s.f. 14,000
    Hangers and fastenings lb. 400
  5323 Registers and grilles:
    Registers 300

570 BREECHINGS AND SMOKEPIPE WITH FITTINGS 50

600 HOUSEHOLD EQUIPMENT:
610 Ranges—Gas 25
620 Refrigerators—Electric 25

---

AMERICAN WOOD BOWSTRING TRUSSES
for factories, drill halls, hangars, garages, etc. Built on the job anywhere in the U. S. A. or fabricated in Chicago and shipped ready for erection.

FREE ESTIMATES
For free estimate give number of trusses needed, span, spacing between trusses, loading condition and location of job.

WRITE US TODAY AMERICAN ROOF TRUSS COMPANY Engineers and Constructors of Roof Trusses 4052 Stony Island Avenue, CHICAGO, ILL.

---

THE Floor OF TOMORROW
With its tough, resilient surface, lasting beauty and low maintenance, Wright Rubber Tile flooring is recognized as a leader in the field. When rubber is again available, either natural or synthetic, Wright promises to bring you the floor of tomorrow—in a wide range of colors and designs—easy to sell and easy to install.

Flooring Contractors: Now is the time to get lined up on our "2-Way Profit" proposition. Write for details.

Wright Rubber Products Division Taylor Manufacturing Company 3050 W. Meinecke Ave., Milwaukee 10, Wis.

---

WRIGHT RUBBER TILE
Flooring of Distinction
Solar Heating for Post-War Homes
(Continued from page 36)

"Those who are there in spring or summer months are delighted with the views through the transparent walls, and those who have been there on a winter’s day or night have been treated to a rare sight—a ring side seat at a blizzard, but in warm comfort."

While Architect Keck’s functional design takes full advantage of the Solar principle, other architectural approaches can and have been made to attain solar heating, even in Cape Cod, Colonial and other types of houses without breaking sharply with traditional design. The main requirement is proper orientation of windows, combined with extended roof lines or some other form of sun visor control.

**Some Conclusions Reached in Report**

"It is well known from the research of others that glass is a 'heat-trap' in the sense that it is highly transparent to radiant heat in wave lengths derived from very high temperature (incandescent) sources, and is relatively opaque to radiant heat from low or moderate temperature sources. Upon this property rests the 'insolation' or the design of buildings to utilize solar heat for comfort purposes."

"The opportunity to study a house designed in this manner, and further equipped with radiant heating through floor panels, appeared to present a chance to measure the practical effect of solar auxiliary heating in a well-designed dwelling. Unfortunately a number of critical and unexpected variables were introduced (or discovered) after the program was established. These had the effect of preventing the reduction of observed conditions to quantitative values."

"Nevertheless, the study may prove interesting and perhaps fruitful to those concerned with solar auxiliary heating, mechanical heating by radiant methods and the interrelationships of the two methods."

---

**How to Specify for Basements**
(Continued from page 56)

form to shape, lines and dimensions of the walls as shown on the plans. They shall be designed to resist the pressure to which they will be subjected. Forms shall be sufficiently tight to prevent leakage of mortar and shall be properly braced or tied together so as to maintain position and shape and insure safety to workmen. Forms shall be assembled in such manner as to facilitate their removal without damage to the concrete. Forms shall be of removable type or shall be made to break off at least 3⁄4 in. inside the face of the concrete. Dowels for areaways and for connecting walls shall be provided as shown on the plans.

(NOTE: For details regarding concrete stairs, refer to the Portland Cement Association publication "Suggested Specifications for Concrete Stairs and Steps," sent free on request in the United States or Canada.)

2. Contractor shall furnish and install bucks in forms to provide openings for windows and doors of types and dimensions shown on plans. All bucks shall be securely fastened to forms so they will not leak mortar or be displaced during concreting operations. All timber to be left embedded in concrete shall be
crooked or otherwise treated with suitable preservatives.

(Note: When it is desired to cast window sash and/or door frames in basement wall Paragraph 2 above should be reworded as follows: Contractor shall form window sash and/or door frames in cast-in-place concrete at basement walls as detailed on the plans. Temporary forms for this purpose shall be so fastened together that they can be dismantled without damaging concrete. Window and/or door forms shall be securely fastened to the wall forms so they will not leak mortar or be displaced during concreting operations. All timber to be jet set embedded in concrete shall be creosoted or otherwise treated with suitable preservatives.)

3. Contractor shall furnish and install reinforcement of size and spacing shown on plans. The reinforcement shall be securely wired in the center of the wall and care taken to prevent its displacement during construction operations.

4. Contractor shall provide means of passing utilities (water and gas lines) through the basement wall as detailed on plans.

(Note: Water and gas pipe openings may be passed through a sleeve in the forms. The space between the pipe and pipe sleeves should be greased tight or packed with oakum to make a watertight joint.)

5. The concrete shall be deposited in the forms in level courses at the rate of not more than 24 in. per hour and shall be well spaded or vibrated into place. Placing methods shall be such as to avoid segregation of the materials and to produce a dense, homogeneous concrete free from honeycomb. Concrete shall be brought to proper level and excess water and laitance removed.

6. Top of basement wall shall be finished to a smooth, level surface at elevation shown on plans to provide bearing for first floor.

7. Contractor shall form and cast areaways of size and dimensions shown on the plans. Dowels previously set in the exterior basement walls shall be bent into position and other reinforcement provided as detailed on the plans. Grilles if shown shall be provided and installed to the approval of the architect.

**Jobs for Builders in Sound-Conditioning War Plants**

(Continued from page 50)

After consultation with acoustical engineers, the entire ceiling area of the machine shop was covered with 1-inch thick sound conditioning material provided the necessary additional heat insulation while furnishing adequate sound absorption. The result was a general quieting of the entire room. The occasional high-pitched noises from the cutting tools were localized by being effectively damped instead of being free to spread. Greater efficiency and much better working conditions were noticeable immediately.

Most of the manufacturers of acoustical materials have their own distributors who handle installations, but it is frequently difficult for these men to cover the entire field. As a result, many contractors in the smaller localities have formed connections to handle sound conditioning installations in outlying districts. As the market broadens, more and more contractors are getting into the acoustical installation field.

A great deal of remodeling work is going on at the present time, with many of the jobs offering possibilities for sound condition work. In all cases, however, it is advisable that experienced acoustical engineers be consulted on jobs.
30% to 40% MORE CONCRETE with this MIXER!

Load the Measuring Batch Hopper (12" lower) while you mix and discharge — fast as power loader. Criss-Cross "Re-Mix Drum, Accurate Measuring Tank (syphon type), End discharge design, Get catalog, prices. The Jaeger Machine Co., 521 Dublin Ave., Columbus, Ohio.

Band Saw With Engine Drive

A portable unit for out on the job or in the shop work. Rigidly built and easily moved from shop to site.

3/2 H.P. Band Saw, driven with 1 1/2 H.P. Wis. air cooled engine thru V belt drive. Can also be furnished with electric motor drive or without power.

Price $275.00
3862 North Palmer St.

C. H. & E. Manufacturing Co.
Milwaukee, Wis.

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In this day when speed is the watchword of essential construction, every minute that can be saved in getting your building under roof is important. Abesto for new built-up roofs saves time because it eliminates the use of hot kettles and requires no hot mopping.

Abesto is a cold tempered alloy of the finest soft synthetic asphalts combined with the exclusive Viscoroid base. Strongly resistant to oxidation, it retains elasticity in winter and does not liquefy in hot weather. Specification of Abesto assures better roof construction, in less time, at lower cost.

Write today for full particulars and specifications

ABESTO MANUFACTURING COMPANY
131 Wabash Street
Michigan City, Indiana
ALBI-FIREPEL "S" — the modern scientific fire retardant coating material...Protects against the intense sustained fire.

"Help Guard the Home Front Against Fire"
FIRE PREVENTION WEEK
OCTOBER 3-9, 1943

THE ONLY FIRE RETARDANT COATING MATERIAL LISTED AND APPROVED BY
Underwriters' Laboratories, Inc.
FOR PROTECTION AGAINST FIRE HAZARD

for complete information write to
Albi Firepel Corporation
9 Park Place
New York 7, N. Y.
Sell—Install Storm Sash and Storm Doors NOW!

A CAMPAIGN is now being launched by government agencies and building supply manufacturers to promote the sale of fuel-saving materials to home owners.

This campaign means business for you. Help home owners conserve fuel, for fuel is power: power to turn out the implements of war, power to crush the aggressor nations.

Storm sash and storm doors are one of the best means of conserving heating fuel and assuring comfort to home owners who face fuel shortages. This is a ready-made demand awaiting your action.

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